



Ecological Impact Assessment

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Report	Ecological Impact Assessment (EcIA)
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Executive Summary

Ecosupport Ltd was instructed by Southern Strategic Land to undertake ecological surveys and subsequent Phase II survey work to inform an Ecological Impact Assessment (EcIA) at Denham's Corner, Horton Heath. 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:

- Data request submitted to the Hampshire Biological Records Centre (HBIC)
- Bat activity surveys (walked transects and static deployments covering April- October 2023)
- Breeding Bird Surveys (March-June, 2023)
- Dormouse nest tube survey (May-October, 2023)
- Reptile presence / likely absence survey (September-October 2023)
- UK Habs baseline habitat assessment

Given the identification of these potential constraints, outline mitigation measures for each species group / feature are indicated in **Table 1** below.

Table 1. Summary of the proposed mitigation / compensation measures to address impacts to the identified receptors / constraints on-site.

Species Group / Features	Potential Impacts	Outline Mitigation / Compensation
Reptiles	Low population of Slow worms on-site around the boundaries with direct impacts to suitable habitat.	Given the low population of reptiles recorded on-site in 2023 (peak count 1 adult), precautionary methods in the form of directional strimming should be undertaken to displace reptiles that may be present at the site prior to the construction phase of the development.
Bats	Site used for foraging and commuting by 8 species of bat with Annex II Barbastelle recorded in low numbers (in August and September 2023 following completion of final bat work)	Retention of existing boundary tree lines / hedgerow features, sensitive lighting scheme and creation of new habitats of suitability for bats. Bat boxes also recommended on trees / in new dwellings. A 20m boundary around the adjacent SINCC and Ancient woodland will also be implemented and will act as a dark corridor for foraging and commuting bats.
Dormice	Nest tube surveys identified 0 Dormouse nests in 2023 meaning	No specific mitigation required as dormice are likely absent.

	presence can be discounted within the adjacent woodland and hedgerows.	
Breeding / nesting birds	Mature hedgerows / lines of trees located on site along with areas of Bramble scrub. Both represent suitable habitats for breeding and nesting birds. Breeding bird surveys were completed between March-June 2023.	Removal of any suitable vegetation to be undertaken outside of the nesting bird season (typically Mar – August inclusive).
Badgers	A potential main sett located in Scorey Copse with an outlier hole located in 2022 towards the northern boundary. The outlier sett was not present during the 2024 updated walkover.	A buffer zone of 30 meters from the main sett will be implemented. A Pre-commencement walkover will also be undertaken within 2 weeks of commencement of ground works to check that no additional setts have appeared.

In addition to the above species / feature specific recommendations, ecological enhancements are proposed in **chapter 7.0** which will include the provision of bird and bat boxes along with features to enable Hedgehog movement throughout the site.

1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was commissioned by Southern Strategic Land Ltd to undertake ecological surveys and subsequent Phase II survey work to inform an EcIA at Denham's Corner, Horton Heath (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.

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 certain aspects may require updating.

1.2 Site Description & Location

The site comprises of a large parcel of grassland (cut for hay) with areas of marshy grassland and mature woodland (both designated as SINCs) located around the outer parts of the site located at Denham's Corner, Horton Heath, SO32 2BW (centred on OS grid reference SU499163) (**Fig 1**). The southern boundary of the site is marked by Snakemoor Lane, the western boundary by a woodland parcel / residential dwelling and the north and east by further pasture fields.

Figure 1. Aerial image of the site with approximate redline boundary provided (Google Earth, 2024)



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

1.3 Proposed Development

The proposals entail a residential development of 150 dwellings and associated garages, roads, footpaths and private gardens within the red outlined area shown in **Fig 2 below**. A SuDs system will also be implemented.

Figure 2. View of the proposed plans (as supplied by Corstorphine & Wright)



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 (2017)*

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 Biological Records Centre (HBIC) to ascertain any records held of nature conservation designations and protected species within 2km of the boundary of the site.

The data search covered:

- Statutory designated sites
- Non-statutory designations such as LWS
- Records of protected and notable species.

3.1.2 Waterbodies

Any ponds located within 250 m 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 Adam Jessop BSc (Hons) MSc MCIEEM (principal ecologist with Ecosupport) on the 8th June 2022 with an updated walkover completed by Ashley James BSc (Hons) ACIEEM and Katalin Balazs BSc (Hons) MSc on the 25th September 2024. Weather conditions during the survey comprised temperatures of 16 °C, light winds and moderate cloud cover.

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).

UKHab represents a method for classifying habitats which has been produced to provide an up-to-date replacement for the current industry standard phase 1 survey method. One of the main benefits of UKHab is that it supports the evaluation of habitats for EcIA and no net loss/net gain analysis, providing a more detailed interpretation of habitat types, which is important for assessing the distinctiveness and condition of habitats against which biodiversity net gain is measured.

The standard survey methodology has been 'extended' in this report to include the following:

- Floral species lists for each identified habitat;
- Descriptions of habitat structure, the evidence of management and a broad assessment of habitat condition;
- Mapping of additional habitat types (e.g. hardstanding);
- Identification of Priority Habitats under Section 41 of the NERC Act;
- Evidence of, or potential for, the presence of certain species/groups

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 Ground Level Tree Assessment

Once a tree removal plan for the site is available, a non-exhaustive Ground Level Tree Assessment (GLTA) of any notable trees on site will be undertaken by a licensed ecologist or accredited agent. Following edition 4 of the BCT guidelines (Collins (d) 2023), features of trees will be assessed for their suitability to support roosting bats using a high-powered torch and binoculars, with the results of these observations combined with the data collated during the desk study to classify each tree as either negligible, FAR (Further assessment required), PRF-Is (Potential roost features - individual) or PRF-M's (Potential roost features – maternity) (Table 2).

Table 2. Guidelines for assessing the potential suitability of sites for bats (Trees) (adapted from Collins, 2023).

Suitability	Description
	Roosting Features
Negligible	Tree does not support any suitable features that could be potentially utilized by roosting bats.
FAR	Further Assessment Required (FAR) to establish if any PRFs are present in the tree.
PRF - I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF - M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

3.2.3.2 Walked Transects

Based on the suitability of the habitat for foraging and commuting bats (moderate – high based on records and nature of habitats) walked transects were carried out on-site between July – October in 2023 according to the previous best practice guidance (Collins (ed.) 2016) which was the most up to date at the time (Fig 3 with 10 listening stations used) Approximately 12 minutes was spent at each listening point during which, passes of species were noted. Any passes recorded whilst walking between points were also noted. Both a Bat Box duet / Elekon Batscanner heterodyne and Elekon Batlogger (for analysis of calls via sonogram) detector was employed during all surveys. The surveys were carried out by Amy Johnston and Ollie Silvester all experienced bat surveyors with Ecosupport Ltd in 2023.

Figure 3. Map showing the transect route and associated listening stations used during the 2023 walked transects work covering all of the site for bats and breeding birds



3.2.3.3 Static Monitoring

In addition to the walked transects, as per the requirements outlined in the BCT guidelines (Colins (ed.), 2016), static detectors were placed at different locations along the transect routes (for 2023 as outlined in **Figs 4** below) for 5 consecutive nights each month during the survey periods (July– October in 2023). The locations of the static bat detectors are shown in **Figs 4** below, with Anabat Express and / or a Song Meter Mini detector deployed. Analysis of sonograms was completed using either Analook or Kaleidoscope.

Figure 4. Approximate locations of static bat static detectors placed on-site during the 2023 survey work (A = May, B = June, C = July , D = August, E= September and F= October).

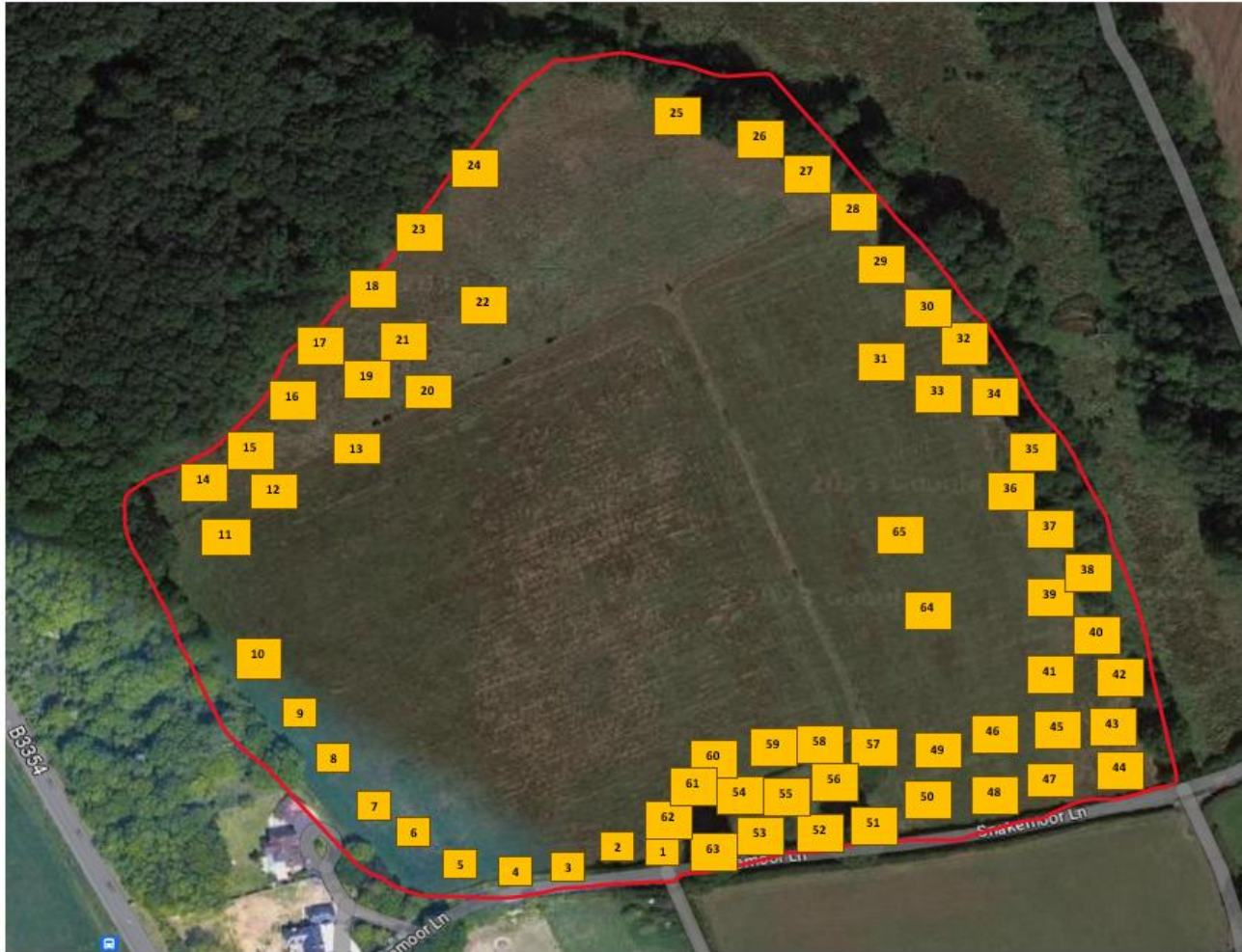


3.3 Reptile Survey

Based on the suitability of the habitat for common reptiles (low potential, reptile surveys were undertaken by Ecosupport, carried out in accordance with best practice guidelines as stated in various resources (Froglife 1999) (Gent & Gibson 1998) in September 2023, however the surveys had to extend into October due to vandalism of the reptile mats. The additional surveys were completed in October during suitable weather conditions. Artificial refugia comprising of bitumen roofing felt were distributed throughout the suitable reptile habitats on site. The distribution of 65 pieces of refugia throughout the identified suitable habitat on-site is shown in **Fig 5**. Seven visits to the site were subsequently undertaken during suitable weather conditions during which all the refugia were checked for the presence of reptiles in combination with a visual observation transect.

This survey is considered sufficient to identify the presence or likely absence of reptiles on the site. It does not provide sufficient information to allow an accurate assessment of population sizes, however, it does allow inferences to be made as to population size class in combination with other considerations such as the extent and quality of the habitat.

Figure 5. Location of the artificial refugia distributed across the site during the 2023 reptile survey.



3.4 Dormice

Based on the suitability of the habitat for Hazel Dormouse (*Muscardinus avellanarius*) on the site a nest tube survey was undertaken to determine their presence or likely absence. Methodological guidance for Dormouse surveys is provided in the *Dormouse Conservation Handbook* (Bright *et al* 2006) whereby a minimum of 50 tubes is recommended to be used per site, at a spacing of 20m. A total of 50 tubes were deployed on site in April 2023 with the approximate locations of the areas covered (which covered the wider site are shown in **Fig 6**.

The *Dormouse Conservation Handbook* uses an “index of probability” to assess the likelihood of a survey detecting Dormice. This assigns a score for each month which nest tubes are on a site (see **Table 3**) and recommends that a total of 20 points is necessary. The surveys were carried out between May and October 2023 to ensure that all key parts of the season were covered and sufficient survey effort was achieved. The tubes were checked by Ashley James of Ecosupport Ltd (Dormouse licence number 2018-35528-CLS-CLS).

Table 3. Index of probability of finding Dormice present in nest tubes in any one month. From the Dormouse conservation handbook (Bright *et al* 2006).

Month	Points	Month	Points
April	1	August	5
May	4	September	7
June	2	October	2
July	2	November	2

Figure 6. Areas of the site and wider area where the dormouse nest tube surveys in 2023 (green dots show the locations of the 50 tubes set out).



3.5 Breeding and Nesting Birds

The hedgerows, woodland and grassland areas on-site provide ideal nesting habitat for tree and ground nesting and foraging birds. The site is situated within a surrounding environ that provides an ideal mosaic of habitats, including arable land, woodland, hedgerows and wet/inundated features, providing ideal foraging habitat for any nesting or breeding birds using the site. Therefore, a suite of Breeding Bird surveys were completed between March and June 2023 in line with the BTO's guidelines to check if the habitats support protected birds species. The locations of the transect route taken can be seen in **Fig 3**.

3.6 Assessment Methodology

3.6.1 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). This includes establishing the likely Zone of Influence (Zoi) for the project.

3.6.2 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.

3.7 Limitations

3.7.1 Survey Work

All survey works that have been undertaken were completed in line with the relevant guidance during September at the appropriate time of year. However due to vandalism and the removal of the mats on-site, the survey had to be re-deployed and this meant continuing into October 2023. The reptile surveys however were completed in suitable weather adhering strictly to the guidelines to ensure the validity of the results.

4.0 ECOLOGICAL BASELINE

4.1 Designated Sites

4.1.1 Statutory Designations

HBIC did not identify any statutory designated sites within the 2 km search radius and the site is located just over 6 km from the nearest parcel of the Solent and Southampton Water SPA (and can therefore be considered outside of the Zone of Influence). The site is however located approximately 13.5 km from the New Forest SAC.

4.1.2 Locally Designated / Non-Statutory

The locally designated sites identified by HBIC are shown in **Fig 7** with a summary of these sites presented in **Table 4**.

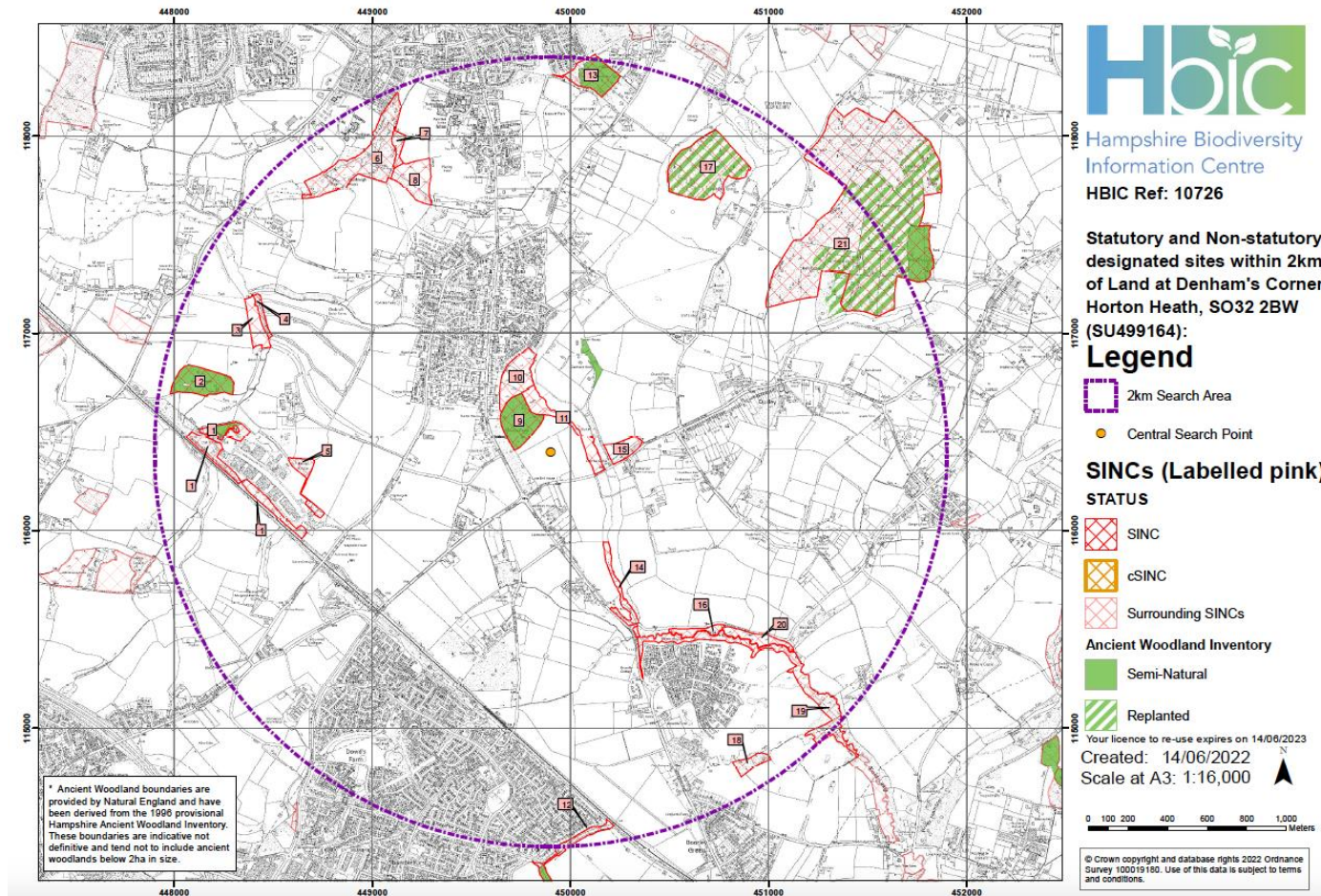
Figure 7. Non-statutory designated sites located within 2 km of the site as provided by HBIC.

Table 4. Summary of locally designated sites within 2 km of the site as provided by HBIC and shown in Fig 7 above

Map Label (as per Fig 7) / SINC Reference	Name	SINC Criteria	Species Supported that meet Section 6 of SINC Selection Criteria	Distance to Site
1 / EA0079	Chalcroft Distribution Park	1B		1.8 km W
2 / EA0080	Hearts Copse	1A		1.9 km W
3 / EA0151	Field North of Hearts Row, West End	5B		1.8 km W
4 / EA0152	Treeline Break, West End	1A/1Cii		1.8 km W
5 / EA0088	Round Copse, West End	1A		1.6 km W
6 / EA0096	Quobleigh Pond & Woods	1A/1Cii		1.9 km NW
7 / EA0099	Ponds & Meadow adjacent to Wyvern Technology College	6A	<i>Triturus cristatus</i>	1.9 km NW
8 / EA0101	Wyvern Technology College Meadow	2A		1.8 km NW
9 / EA0105	Scorey's Copse	1A		On site
10 / EA0106	Scorey's Copse Meadow	2D		On NE boundary
11 / EA0107	Scorey's Copse Rush Pasture	2B/5B		On-site
12 / EA0113	Bottom Copse/Bushy Copse	1A/1Cii		1.9 km S

13 / EA0114	Knowlehill Copse	1A		1.9 km N
14 / EA0115	Alder Strip	1A/1Cii		0.5 km S
15 / WC0120	Snakemoor Farm Meadow	2B		0.2 km E
16 / WC0686	Ford Lake Woodland	1B/1Cii		1 km S
17 / WC0133	Durley Copse	1B		1.7 km NE
18 / EA0123	Botley Park Wood	1A		1.9 km SE
19 / EA0124	Botley Golf Course Wood	1A/1Cii		1.9 km SE
20 / WC0139	Ford Lake Meadow	1B/2B/5B		1.6 km SE
21 / WC0143	Parker's Copse/Fir Plantation/Greenwood	1B		1.7 km NE

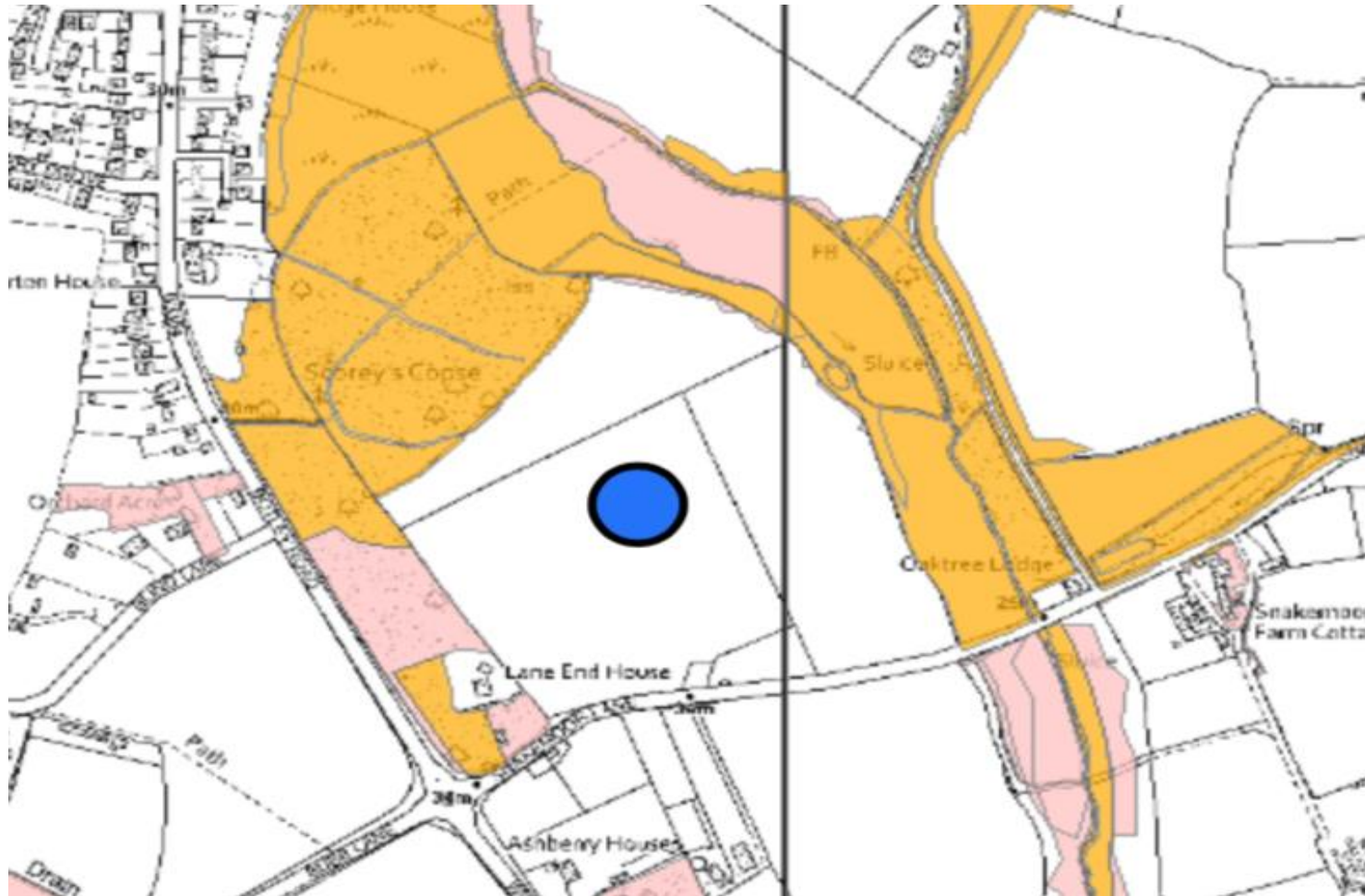
4.1.3 Ecological Network

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 8** below, the SINC areas encompassing the Scorery's Copse woodland and Scorery's Copse rush pasture are both within the 'core non-statutory' designation (with some 'network opportunities' areas adjacent to the western boundary) although the area targeted for development is outside of any designation.

Figure 8. 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 was originally described under the UK Habs Definition 1.0 when the initial site visit was completed but has been updated in 2024 and described below using the classification terminology as described within Habitat Definitions Version 2.0 (UKHab Ltd., 2023). The below species 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 of:

- Modified grassland (g4) (2022) updated to Cereal Crops (c1c) (2024)
- Lowland mixed deciduous woodland (w1f) (secondary habitat code 28, ancient woodland site, **PRIORITY HABITAT**)
- Purple Moor Grass and rush pastures (f2b) (secondary habitat code 25 for coastal floodplain grazing marsh, **PRIORITY HABITAT**)
- Woodland and Forest (w) (secondary code 33 Line of trees)
- Hedgerow (priority habitat) (h2a)
- Artificial unvegetated unsealed surface (u1c) (secondary habitat codes 81 ruderal and 600 Ploughed)
- Bramble scrub (h3d)

4.2.1 g4 – Modified Grassland (g4) (2022) updated to Cereal Crops (c1c) (2024)

This is the dominant habitat type present within the defined 'developable area' as per **Fig 1** during the 2022 walkover and was considered to fall within this habitat type due to the relatively low forb diversity in the sward (was consistently < 9 species / m²). Grasses were dominated by species typical of agricultural improvement with abundant Rye Grass (*Lolium perenne*) along with Yorkshire Fog (*Holcus lanatus*), Cocks Foot (*Dactylis glomerata*) and occasional – rare Red Fescue (*Festuca rubra*) and Meadow Foxtail (*Alopecurus pratensis*) (**Fig 9**). Forbs were limited to occasional (sometimes locally frequent) White Clover (*Trifolium repens*), *Rumex* spp, *Ranunculus* spp, Common Mouse-ear (*Cerastium fontanum*), Common Stinging Nettle (*Urtica dioica*) and *Crisium* spp. A small area of this grassland was beginning to support *Juncus* spp in the SE corner adjacent to the line of trees indicating wetter soil conditions moving into the rush pasture habitat. At the time of the walkover and throughout the surveys, cattle were present grazing the grass within site. It appears the site is on some form of rotational farming with the site currently being used for hay.

An updated walkover was carried out on 25th September 2024 during which the 'developable' area has been rotated from hay to being cultivated with maize (**Fig 10**), showing that the land is still actively being used on a historical farmland rotation. A small strip of modified grassland is still present between the maize crop and the hedgerow along Snakemoor lane (**Fig 11**). The species assemblage identified during the walkover consisted of the following: Perennial Rye Grass, Broad Leaved Dock (*Rumex obtusifolius*), Buttercup spp, Dandelion (*Taraxacum* spp), Greater Plantain (*Plantago major*), Pineapple weed (*Matricaria discoidea*), White Clover and sporadic Marsh Cudweed as you head east to the wetter areas on-site.

Figure 9. View of the g4 grassland taken from the southern part of the site. The dominance of Yorkshire Fog in the sward is notable from this picture (taken June, 2022).



Figure 10. View of the crop within the 'developable' area (taken September 2024).



Figure 11. View of the strip of modified grassland adjacent to the hedgerow along Snakemoor Lane (Taken September 2024)



4.2.2 Lowland Mixed Deciduous Woodland (w1f with secondary habitat code 28 covering SINC)

The woodland area located within the northern and western parts of the site (the northern part designated as a SINC as per **Fig 7**) supports lowland mixed deciduous woodland with the SINC part also indicated as ancient woodland (secondary habitat code 33). The woodland supported frequent Beech (*Fagus sylvatica*), Hazel (*Corylus avellana*), Ash (*Fraxinus excelsior*), Oak (*Quercus* spp), Holly (*Illex aquifolium*), Silver Birch (*Betula pendula*) and Cherry (*Prunus avium*) (**Fig 12**). A public right of way runs through part of the woodland and within the understorey, Bluebells (*Hyacinthoides non-scripta*), Wood Avens (*Geum urbanum*), Ivy (*Hedera helix*), Remote Sedge (*Carex remota*), Common Spotted Orchid (*Dactylorhiza fuchsia*) and Solomon's Seal (*Polygonatum multiflorum*) are present.

The updated walkover confirmed the woodland is still present (**Fig 13**) with the same species assemblage as above and hasn't changed since the initial walkover. A boardwalk footpath is proposed leading in from Botley road into the site, outside of the SINC designation. A walkover to map out the route of least disturbance was undertaken with the council on the 15th April 2025, confirming the location of the footpath was suitable with limited clearance work required (**Fig 14**). The clearance is limited to a small section of Bramble from the Botley Road.

Figure 12. View of the woodland (Taken June 2022).



Figure 13. View of the woodland (Taken September 2024).



Figure 14. View of proposed boardwalk footpath location (Taken, April 2025).



4.2.3 Purple Moor Grass and Rush Pastures (f2b).

This habitat type comprises the entirety of the land to the east of the line of trees and is wholly designated as a SINC for supporting: '*Semi-improved grasslands which retain a significant element of unimproved grassland*' (2B) and '*Fens, flushes, seepages, springs and inundation grasslands of floodplains that support a flora and fauna of less-improved wet conditions (seasonal or permanent)*' (5B)' (Wilson, 2021). A comprehensive species list was not compiled at the time of the walkover due to how wet the area was and the presence of grazing cattle although from the areas that could be accessed, the following species were noted; Soft Rush (*Juncus inflexus*), Jointed Rush (*Juncus articulatus*), Lesser Spearwort (*Ranunculus fammula*), Hemlock Water Dropwort (*Oenanthe crocata*) and Marsh Foxtail (*Alopecurus geniculatus*) (**Fig 15**).

During the updated walkover, the south east corner of site has seen the succession of Rush Pasture established from the adjacent SINC (**Fig 16**). The species noted consisted of Compact Rush (*Juncus conglomeratus*), Marsh Thistle (*Cirsium Palustre*), Marsh Cudweed (*Gnaphalium uliginosum*) and Marsh Ragwort (*Jacobaea aquatica*). The further north you go along the eastern boundary the site transitions back to modified grassland with scattered rushes throughout. Over time this strip may transition into further Rush Pasture.

The updated walkover also confirmed the rush pastures within the SINC (**Fig 17**) are still present with similar species assemblage from the 2022 walkover with the inclusion of the following additional species, Marsh Thistle, Marsh Cudweed and Marsh Ragwort identified during the updated walkover.

Figure 15. Area of the Purple Moor Grass and rush pastures (f2b) habitat (designated as a SINC) located along the eastern part of the site. This was very wet underfoot at the time of the walkover survey and being grazed by cattle (taken June 2022).



Figure 16. View of the rush pasture encroaching into the SE area on-site. (Taken September 2024).



Figure 17. View of the adjacent Rush Pasture SINC (Taken September 2024).



4.2.4 Woodland and forest (w) (secondary code 33 Line of Trees)

A line of trees was present acting as the boundary between the modified grassland parcel and the rush pasture habitat / SINC in the eastern part of the site. This supported trees of differing levels of maturity with the following species noted: Oak, Ash, Grey Willow (*Salix cineria*), Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Alder (*Alnus glutinosa*), Bramble (*Rubus fruticosus* agg) and Honeysuckle (*Lonicera periclymenum*) (**Fig 18**).

The updated walkover confirmed the line of trees along the eastern boundary between the SINC and site is still present and has not changed (**Fig 19**) and still consists of the same species assemblage as the above.

Figure 18. The line of trees located on the eastern edge of the area of g4 before getting into the f2b habitat. In the foreground areas of *Juncus* spp can be seen developing in the g4 habitat (taken June, 2022).



Figure 19. View of the line of trees separating the SINC from site (Taken September 2024).



4.2.5 Hedgerow (priority habitat) (h2a)

The southern boundary of the site (adjacent to Snakemoor Lane) is marked by a managed hedgerow with mature Oak trees which classified as h2a. This supported Hazel, Blackthorn, Hawthorn, Ash, Bramble, Hazel, Field Maple (*Acer Campestre*) and Elder (*Sambucus nigra*) (**Fig 20**).

During the updated walkover the hedgerow along the southern boundary is still present however it now appears to have been left unmanaged since the initial walkover in 2022 (**Fig 21**). The species assemblage remained the same as the above.

Figure 20. Managed h2a hedgerow (priority habitat) located along the southern boundary of the site adjacent to Snakemoor Lane (taken June, 2022).



Figure 21. View of the hedgerow along the southern boundary (taken September 2024).



4.2.6 Artificial unvegetated unsealed surface (u1c) with secondary code 81 ruderal and 600 Ploughed.

To the north of site beyond the maize crop, an area of the site appears to have recently been ploughed, which has created the artificial unvegetated unsealed surface habitat. However, ruderal vegetation has since started to colonise in the form of large matts of Spear Thistle (**Fig 22**).

Figure 22. View of the thistle colonising the recently ploughed land (Taken September 2024).



4.2.7 Bramble scrub (h3d)

A patch of bramble scrub was found on the northern boundary of the site during the updated walkover (**Fig 23**).

Figure 23. View of the bramble scrub present to the north of the site (taken September 2024).



4.3 Bat Survey Results

4.3.1 Pre-existing Data

The data request from HBIC returned the following bat records within 2 km of the site (**Table 5**).

Table 5. List of bat records within 2km of the site provided by HBIC.

Taxon Name	Species Name	Number of Records	Further Information
<i>Eptesicus serotinus</i>	Serotine	15	One record of a maternity roost
<i>Myotis spp</i>	Myotis bat	17	All records from aural bat detectors
<i>Myotis daubentonii</i>	Daubenton's bat	8	All harp trap records
<i>Myotis mystacinus</i>	Whiskered bat	11	Majority of records from bats trapped
<i>Myotis nattereri</i>	Natterer's bat	8	Majority of records from bats trapped
<i>Pipistrellus spp</i>	Pipistrelle bat species	17	9 roost records
<i>Pipistrellus nathusii</i>	Nathusis's Pipistrelle	6	Majority of records from aural detectors
<i>Pipistrellus pipistrellus</i>	Common Pipistrelle	92	Records a mix of roosts, harp trap captures, statics and aural bat detector recordings
<i>Pipistrellus pygmaeus</i>	Soprano Pipistrelle	38	Records a mix of roosts, harp trap captures, statics and aural bat detector recordings
<i>Nyctalus noctula</i>	Noctule	28	Majority of records from aural detectors
<i>Plecotus spp</i>	Long-eared bat	12	Mix of roosts and aural bat detector recordings
<i>Plecotus auritus</i>	Brown Long-eared	37	Records a mix of roosts, harp trap captures, statics and aural bat detector recordings

4.3.2 GLTA (Trees)

Once a tree removal plan is available outlining the number of trees to be removed, a visit will be completed to assess the trees for any potential roosting features. However, if remedial works will affect these trees (either removal or crown reduction), a detailed ground-based assessment will be required and this report will be updated once it has been completed.

4.3.3 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 supports linear features in the form of mature hedgerow and tree lines which could be utilised by commuting and foraging bats. Furthermore, the site borders / includes an extensive woodland area and could therefore provide an important foraging area for any nearby roosts upon emergence. Taking the above into account, and the abundance of local records (especially for the more common UK species) the site is considered to be of **Moderate – High** potential for foraging and commuting bats.

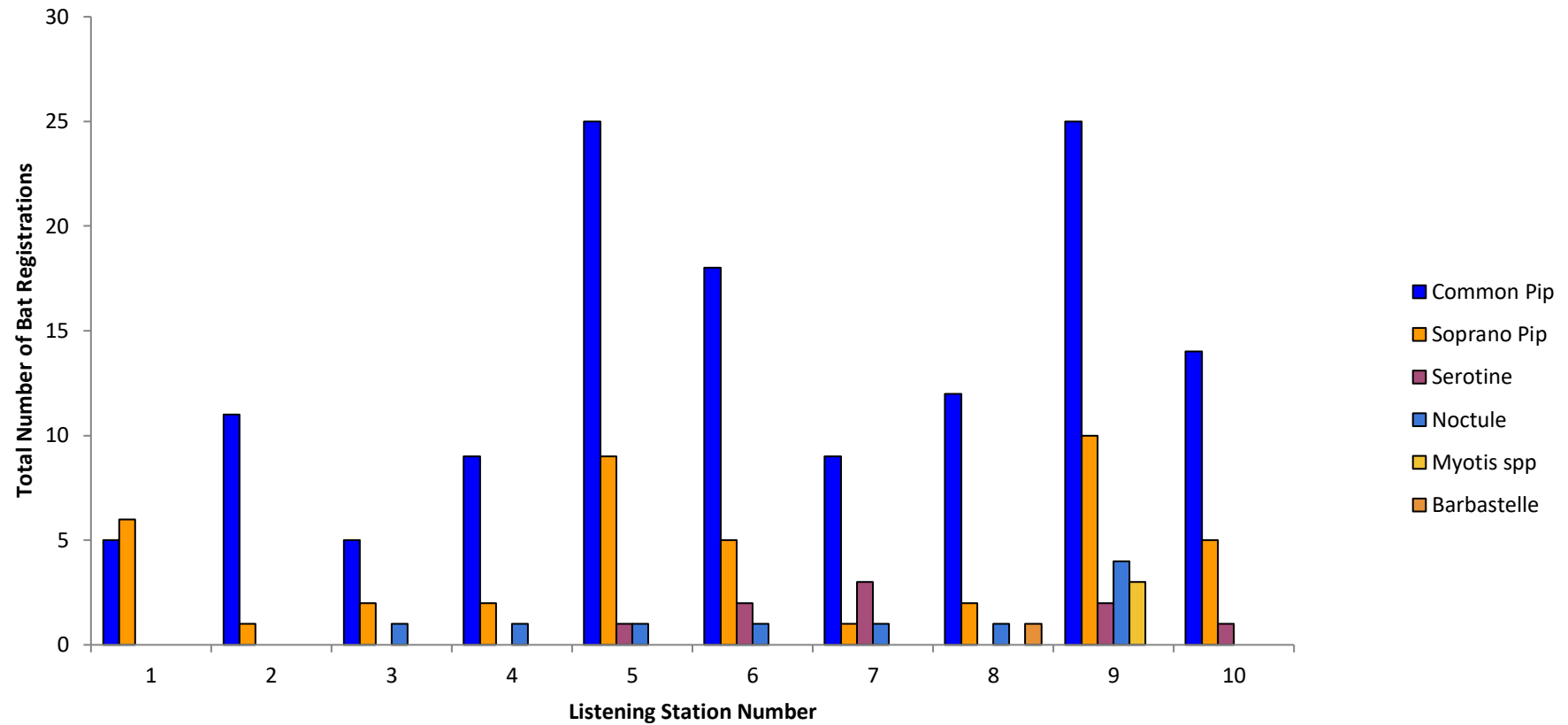
4.3.4 2023 Activity Surveys

4.3.4.1 Walked Transects

The dates and other relevant survey information recorded during the walked transects surveys undertaken by the Ecosupport staff during the 2023 work are indicated in **Table 6** below with the results in **Fig 24**.

Table 6. Dates and other relevant information recorded during the 2023 walked transect surveys (refer to **Fig 3** for route and listening station locations) with result shown in **Fig 24**.

Date	Temp (°C)	Cloud Cover (%)	Precipitation	Wind (Beaufort scale)	Start Time	Finish Time	Starting Point / Direction of Travel
11/05/2023	17	95	Drizzle	1	20:35	22:35	1 – CW
01/06/2023	14	0	Dry	1	21:09	23:09	10 – ACW
02/06/2023	10	30	Dry	1	02:56	04:56	6 – CW
11/07/2023	19	60	Dry	1	21:16	23:16	6 – ACW
15/08/2023	15	20	Dry	1	20:26	22:26	3 – CW
04/09/2023	22	0	Dry	1	19:45	21:45	6-CW
04/10/2023	14	60	Dry	2	18:37	20:37	8-ACW

Figure 24. Results of the walked transects undertaken on site during the 2023 active season (results totalled from 7 visits).

4.3.5 Static Monitoring

The results from the static detector deployments during the 2023 survey work (refer to **Fig 4** for approximate locations) are provided below in **Table 7** (key areas of importance for foraging and commuting bats taking the 2023 survey work into account as well are indicated in **Fig 25**).

Table 7. Results from the static detector deployments covering May- October in 2023 (2 deployed per month and refer to **Fig 4** for approximate locations).

Location	Date	Species	Total passes	Average passes per night	Average passes per hour
A1	9th - 13th May 5 Nights 8.75 hrs p/n	C.pip	432	86.4	9.87
		S.pip	24	4.8	0.55
		<i>Myotis</i> spp.	1	0.2	0.02
A2	9th - 13th May 5 Nights 8.75 hrs p/n	C.pip	1063	212.6	24.30
		S.pip	8	1.6	0.18
		<i>Myotis</i> spp.	3	0.6	0.07
B1	2nd - 6th June 5 Nights 7.75 hrs p/n	C.pip	14	2.8	0.36
		S.pip	1	0.2	0.03
B2	2nd - 6th June 5 Nights 7.75 hrs p/n	C.pip	52	10.4	1.34
		S.pip	1	0.2	0.03
		Noctule	1	0.2	0.03
		<i>Myotis</i> spp.	3	0.6	0.08
C1	11th - 15th July 5 Nights 7.75 hrs p/n	C.pip	52	10.4	1.34
		Noctule	2	0.4	0.05
		Serotine	6	1.2	0.15
C2	11th - 15th July 5 Nights 7.75 hrs p/n	C.pip	1145	229	29.55
		S.pip	5	1	0.13
		Serotine	11	2.2	0.28
		<i>Plecotus</i> spp.	4	0.8	0.10
		<i>Myotis</i> spp.	13	2.6	0.34
D1	8th - 12th August 5 Nights 9.25 hrs p/n	C.pip	1340	268	20.23
		S.pip	55	11	0.83
		Noctule	3	0.6	0.05
		Serotine	8	1.6	0.12
		<i>Plecotus</i> spp.	18	3.6	0.27
		<i>Myotis</i> spp.	40	8	0.60
		Barbastelle	1	0.2	0.02
D2	8th - 12th August	C.pip	280	56	4.23
		S.pip	35	7	0.53
		Noctule	2	0.4	0.03

	5 Nights 9.25 hrs p/n	Serotine	4	0.8	0.06
		<i>Plecotus</i> spp.	27	5.4	0.41
		<i>Myotis</i> spp.	28	5.6	0.42
E1	4th - 8th September 5 Nights 10.75 hrs p/n	C.pip	344	68.8	6.40
		S.pip	13	2.6	0.24
		Noctule	2	0.4	0.04
		Serotine	1	0.2	0.02
		<i>Plecotus</i> spp.	2	0.4	0.04
		<i>Myotis</i> spp.	13	2.6	0.24
E2	4th - 8th September 5 Nights 10.75 hrs p/n	C.pip	186	37.2	3.46
		S.pip	51	10.2	0.95
		Serotine	37	7.4	0.69
		<i>Plecotus</i> spp.	16	3.2	0.30
		<i>Myotis</i> spp.	16	3.2	0.30
		Barbastelle	3	0.6	0.06
F1	4th - 8th October 5 Nights 12.75 hrs p/n	C.pip	231	46.2	3.62
		S.pip	77	15.4	1.21
		Serotine	2	0.4	0.03
		<i>Plecotus</i> spp.	143	28.6	2.24
		<i>Myotis</i> spp.	43	8.6	0.67
F2	4th - 8th October 5 Nights 12.75 hrs p/n	C.pip	25	5	0.39
		S.pip	5	1	0.08
		<i>Myotis</i> spp.	12	2.4	0.19

Figure 25. Areas of notable bat activity recorded on site based on the 2023 survey work completed by Ecosupport. The blue shaded oval indicates the location of the Barbastelle, and the orange shaded ovals indicate the greatest concentration of *Myotis* spp. activity.



4.3.6 Evaluation

In general, the site can be considered relatively important locally for foraging and commuting bats with a reasonable number of calls recorded throughout the survey period and 8 different species noted. Across the 2023 surveys, high numbers of Common Pipistrelles were recorded along the north-western and southeastern boundaries of the site with low numbers of *Myotis* spp recorded across much of the site with the highest concentration shown in **Fig 25**. Additionally, individual Noctule and small numbers of Serotine and *Plecotus* spp. were recorded foraging and commuting across much of the site. Of particular note was the occasional usage of the site by Barbastelle (**Fig 25**) (with Barbastelle considered a rarest species in the UK (Wray *et al*, 2010 and Reason & Wray, 2023)).

The Bat Mitigation Guidelines (Reason & Wray, 2023) provides a standard method for assessing importance of bat assemblage. This approach has been developed to reflect geographic variations in species distributions. To determine the maximum possible score any site could achieve, a score is assigned to each species that could be present where:

- widespread in (almost) all geographies [score 1]
- widespread in many geographies, but not as abundant in all [score 2]
- rarer or restricted distribution [score 3]
- rarest Annex II species and very rare [score 4]

Table 8. Rarity category and associated score for calculating importance score (for 'Southern England') (Bat Mitigation Guidelines, 2023).

Rarity Category	Species	Score
Widespread	Common Pipistrelle	1
	Soprano Pipistrelle	1
	Brown Long-eared	1
Widespread in many geographies but not as abundant in all	Whiskered	2
	Brandt's	2
	Daubenton's	2
	Natterers	2
	Noctule	2
Rarer or restricted in distribution	Alcathoe	3
	Serotine	3
	Leisler's	3
	Nathusius Pipistrelle	3
Rarest Annex II Species and very rare	Greater Horseshoe	4
	Lesser Horseshoe	4
	Bechsteins	4
	Barbastelle	4
	Grey Long-eared	4
	Maximum Score (out of 45)	20

Once the score for each category has been calculated (**Table 8** above) and summed to determine the maximum theoretical score, the threshold score needed for any assemblage to meet each geographic level of importance, can be calculated:

- Assemblage score meets or exceeds 45% of the maximum score: County importance
- Assemblage score meets or exceeds 55% of the maximum score: Regional importance
- Assemblage score meets or exceeds 70% of the maximum score: National importance

The threshold for any site in the Southern England achieving a score of –

- **20 would be classed as of at least 'County' importance,**
- 25 would be classed as of 'Regional' importance,
- 32 classed as of 'National' importance.

Using this system, the site scores **20 points** for commuting and foraging bats (see **Table 8**) and is correspondingly considered to be of at least '**County**' importance.

4.4 Badgers

4.4.1 Pre-existing Information

HBIC provided 6 records of Badger (*Meles meles*) presence from within the 2 km search radius with the nearest of these records approximately 0.9 km to the northeast of the site.

4.4.2 On-site Assessment

During the initial 2022 walkover survey on site, two Badger setts were noted with a likely annexe sett located in the NE corner of the site and what appeared to be the main sett within the Scorey's Copse SINC woodland. The approximate locations of these setts are shown below in **Fig 26** and on the appended habitat map as target notes.

During the updated walkover from 25th September 2024, the Badger sett within the woodland had signs of recent activity (**Fig 27**). The outlier sett which was identified during the 2022 survey was however not located during the 2024 walkover.

Figure 26. Google earth image of the site with the approximate locations of the main (red star) and annexe (yellow circle) Badger setts on-site (taken June 2022).



Figure 27. View of the recent activity within the Badger sett located in the woodland (Taken September 2024).



4.5 Reptiles

4.5.1 Pre-existing Information

HBIC returned records for Slow Worm (*Anguis fragilis*, 5 records), Common Lizard (*Zootoca vivipara*, 3 records) and Grass Snake (*Natrix Helvetica*, 3 records) from within the 2 km search radius.

4.5.2 On-site Survey (2022)

The majority of the habitats on-site can be considered to offer limited potential for reptiles as the main grassland areas dominating the site lacks the structure (through hay cuts) typically favoured by reptiles (Edgar et al., 2010). Notwithstanding this, there are some areas of more structured grassland present around the edges of the site and within the SINC area in the eastern part of the site (although the inundation here would only make these areas suitable for Grass Snake). Given the number of local records, these areas would be considered to offer **Moderate** potential for common reptiles.

Due to the presence of longer areas of grassland around the site a presence / likely absence survey was undertaken in 2023. The full results of this are provided below in **Table 9** with the locations of where the Slow worms were noted indicated in **Fig 28**.

During the updated walkover of the site in 2024 the grassland area which had limited value has been replaced with cereal crops, however the areas where the more structured grassland was present and slightly more suitable (which were where the low number of reptiles were located around the boundaries of the site) remain (**Fig 29**).

Table 9. Results of the reptile surveys undertaken on site between September– October 2023 (Slow worm only). Wind speed is estimated in the Beaufort scale.

Date	Surveyor	Start Time	End Time	Weather Conditions (Temp, Wind, Cloud &, Precipitation)	Common Lizard	Grass Snake	Adder	Slow Worm				Reptile Mat Number/Location
								AM	AF	SA	J	
05/09/23	Rebecca Kent	10:30	11:30	19.c, 1 Beaufort Scale, 0 % cloud and no precipitation.	0	0	0	1	0	0	0	24
12/09/23	Rebecca Kent	10:00	11:00	19.c, 1 Beaufort scale, 50% cloud cover and no precipitation	0	0	0	1	0	0	0	25
29/09/23	Rebecca Kent	11:30	12:30	18.c, 1 Beaufort scale, 40% cloud cover and no precipitation	0	0	0	0	0	0	0	N/A
04/10/23	Rebecca Kent	11:00	12:00	15.c, 1 Beaufort scale, 50% cloud cover, and no precipitation	0	0	0	0	1	0	0	23
07/10/23	Abby Pidgeon	10:30	11:30	15.c, 1 Beaufort scale, 30% cloud cover and no precipitation	0	0	0	1	0	0	0	8
10/10/23	Ollie Silvester	10:10	10:50	14.c, 1 Beaufort scale, 80% cloud cover and no precipitation.	0	0	0	0	0	0	0	N/A
13/10/23	Ollie Silvester	12:00	13:00	15.c, 1 Beaufort scale, 50% cloud cover and no precipitation.	0	0	0	0	0	0	0	N/A

Figure 28. The locations of where the Slow worms (blue square) were identified on site during the presence / likely absence surveys undertaken in 2023.

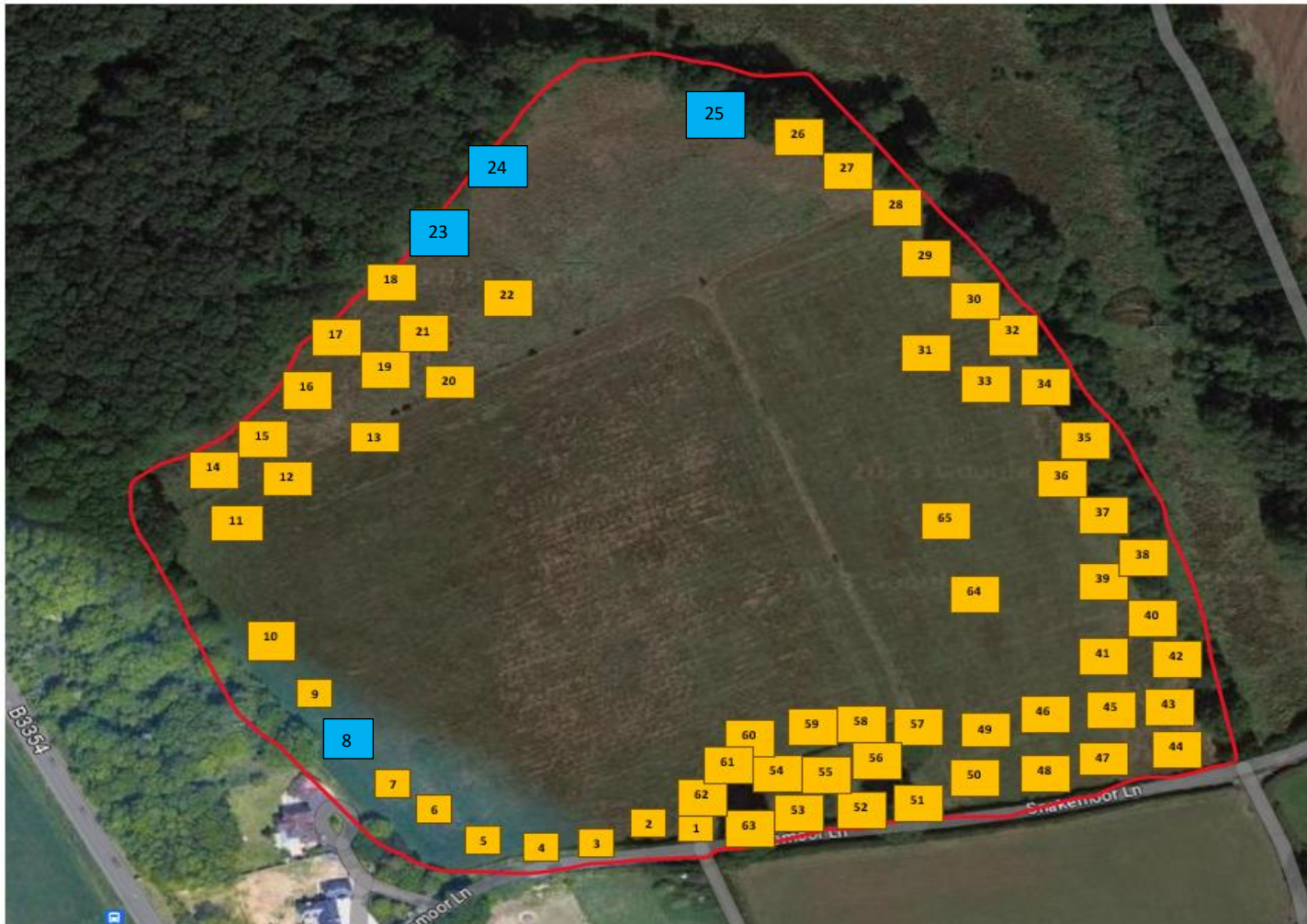


Figure 29. View of the boundary habitat still in-situ along the northern boundary (Taken September 2024).



4.5.3 Evaluation

Given the size of the suitable areas of habitat, the number of refugia deployed and the maximum count of (1 adult Slow worm) a '**Low**' population of Slow worms are present on-site. Slow worms are however relatively widespread within the UK and Hampshire and as such the site it is considered to be **Local Value** for reptiles.

4.6 Great Crested Newt

4.6.1 Pre-existing Information

HBIC returned 6 records of GCN presence for within 2 km of the site although all of these records are more than 1 km away (as per **Fig 30**).

Figure 30. View of the records of GCN in relation to site (red outline).



4.6.2 Waterbodies Within 250m & Site Assessment

Three ponds were identified within 500m of the site following a review of OS maps and aerial imagery. The approximate locations of these are shown in **Fig 31** below. Two ponds were not accessible to undertake an eDNA survey. However, pond 2 which is located directly to the southeast of the site was accessible and subsequently an eDNA survey was completed and came back negative as can be seen in **Fig 32** below.

Figure 31. The three ponds located within 500m of the site with two located to the east and one to the west (**NB the pond shown as on the site, was not present at the time of the walkovers and is therefore likely to be ephemeral**).

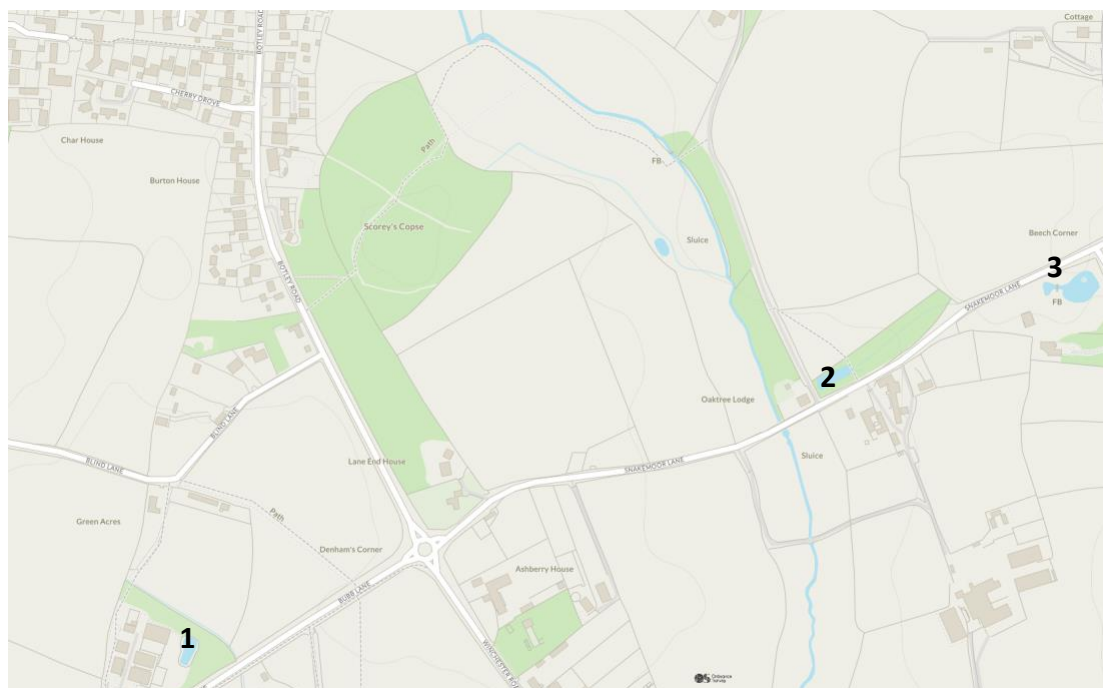


Figure 32. View of negative EDNA result on pond 2 as seen in **Fig 31** above.

Folio No: E18062
 Report No: 1
 Purchase Order: 375
 Client: ECOSUPPORT LTD
 Contact: Rebecca Kent

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (*TRITURUS CRISTATUS*)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 15/06/2023
Date Reported: 22/06/2023
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
5161	Denhams Corner - 5160	SU 502 164	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Chris Troth

Approved by: Jackson Young

4.7 Hazel Dormouse

4.7.1 Pre-existing Information

HBIC returned 2 records of Dormouse (*Muscardinus avellanarius*) presence within 2km of the site with both of these indicated in **Fig 33** below (***NB one of the records appears to be within potentially contiguous habitat***).

Figure 33. View of the dormouse records within 2km of the site (Red outline).



4.7.2 Site Assessment

The hedgerows surrounding the field can be considered to provide suitable habitat for Dormouse as they are well established and formed by a variety of different native species of known benefit to Dormice (as per Bright et al., 2006). These features would provide a protracted source of food throughout the year and the site benefits from linkages into a wider network of hedgerows along with the ancient area of woodland (Scoery's Copse SINC) located in the northern part of the site. Based on the nature of the habitats on and adjacent to the site, and accounting for the record in potentially contiguous habitat to the NE, the site is considered to be of **Moderate - High** potential for Dormice.

Table 10 below indicates the dates on which the tubes were checked and any findings within the tubes.

Table 10. Results of the Dormouse nest tubes survey work on site carried out between June – November 2023. GEC = grey eyes closed, GEO = grey eyes open.

Survey No	Date	Time	Other Occupancy	Dormice				Dormice Evidence
				GEC	GEO	Juvenile	Adult	
1	15/06/2023	10:00	-	-	-	-	-	No evidence of Dormice identified.
2	14/07/2023	10:30	-	-	-	-	-	No evidence of Dormice identified.
3	17/08/2023	9:00	-	-	-	-	-	No evidence of Dormice identified.
4	12/09/2023	8:00	-	-	-	-	-	No evidence of Dormice identified.
5	05/10/2023	11:30	-	-	-	-	-	No evidence of Dormice identified.
6	06/11/2023	14:00						No evidence of Dormice identified.

4.7.3 Evaluation

Based on the information available, it is considered dormice are likely absent within the surrounding hedgerows of the site.

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 2 km 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).

4.8.2 Site Assessment

The hedgerows, woodland and grassland areas on-site provide ideal nesting habitat for tree and ground nesting and foraging birds. The site is situated within a surrounding environ that provides an ideal mosaic of habitats, including arable land, woodland, hedgerows and wet/inundated features, providing ideal foraging habitat for any nesting or breeding birds using the site. Due to the large quantity of notable bird records and the ideal breeding and nesting bird habitat within and surrounding the site, the site is considered to be of **High** potential for nesting and breeding birds.

Due to the presence of a mosaic of habitats present on-site including arable land, woodland, hedgerows and a wet/inundated features a suite of Breeding Bird surveys were completed between March and June 2023 to check if the habitats support protected bird species. The full metadata results of this are provided below in **Table 11** with the territory results of the survey located in **Table 12**. A bird territory map can also be seen in **Fig 34**.

Table 11. Dates and other relevant information recorded during the 2023 Breeding Bird surveys (refer to **Fig 3** for route and listening station locations) with result shown in **Table 12 and** a bird territory map located in **Fig 33**.

Month	Surveyor	Date	Start Time	End Time	Time of Sunrise	Weather Conditions (Temp, Wind, Cloud &, Precipitation)
March	Ashley	10/03/23	6:00	9:30	6:30	Cold Overcast slight Breeze
April	Ashley	05/04/23	6:00	9:30	6:33	Overcast Mild no wind
May	Katalin	11/5/23	5:30	8:06	5:30	Overcast Mild no wind
June	Ashley	15/6/23	6:00	8:15	6:15	Overcast Mild no wind

A total of 14 bird species were recorded during the Breeding Bird Surveys within or just beyond the site boundaries.

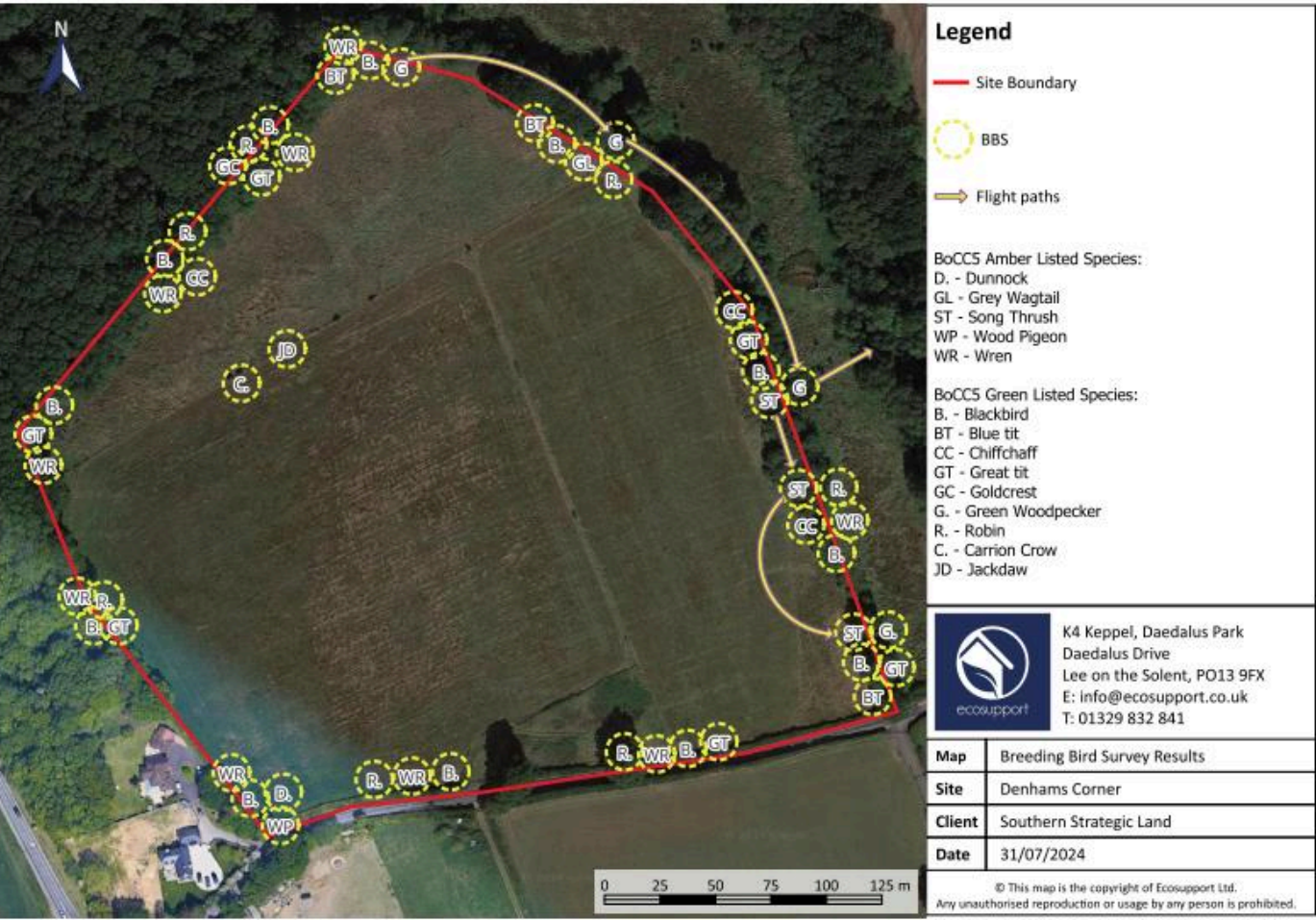
Of the species observed breeding, 4 appear on the Birds of Conservation Concern (BoCC) as declining (red or amber lists) (Eaton *et al.*, 2015) and / or are listed as Species of Principal Importance (SoPI) under the NERC Act (2006).

The notable species recorded on site are detailed in **Table 12**.

Table 12. Protected bird species, BoCC Red and Amber listed species and Species of Principle Importance recorded on site.

Species	Legal/Conservation Status	Number of Pairs, nest locations, Males holding territory on site
Song Thrush (<i>Turdus philomelos</i>)	BoCC Amber	A minimum of 3 territories were identified
Dunnock (<i>Prunella modularis</i>)	BoCC Amber	Minimum of 1 territories
Wren (<i>Troglodytes troglodytes</i>)	BoCC Amber	Up to 12 territories were identified.
Grey Wagtail (<i>Motacilla cinerea</i>)	BoCC Amber	Seen foraging on-site
Wood Pigeon (<i>Columba palumbus</i>)	BoCC Amber	A minimum of 3 territories identified

Figure 34. View of the results of the Breeding Bird surveys.



4.8.3 Evaluation

A total of 5 Amber-listed Birds of Conservation Concern were recorded as using the site as a resource, or likely using the site. Of these, 4 species were found to be nesting/breeding or likely to be nesting/breeding within the entire site. Amber-listed species recorded on site with their HOS status description and approximate numerical range in Hampshire (HOS, 2022) is as follows:

Species (Breeding Pairs)	HOS Status Description	Approximate Numerical Range
Wren	Abundant	30,000+
Song Thrush	Numerous	5001-30,000
Dunnock	Abundant	30,000+
Wood Pigeon	Abundant	30,000+
Grey Wagtail	Moderately common	101-1000

The status of these Amber-listed species known to be actually nesting/breeding, attempting to nest on site or indeed suspected as likely nesting are still regarded as either 'Moderately common', or abundant within the County of Hampshire. This status classification is based on the species having an average number of breeding pairs ranging between 30,000+ for Abundant 5001-30,000 for numerous and 101-1000 for Moderately common, annually within the County.

Given the relatively small, single figure numbers of breeding or suspected breeding pairs within the site, it is not considered that the displacement of these numbers of 'abundant, numerous and moderately common Amber listed bird species would be significantly detrimental to the overall County populations. On a more local level there will be a reduction in nesting and foraging resources in the periphery of the site however.

Due to the considered low number of BoCC Amber listed nesting pairs/territories present on site and the Abundant numerous and moderately common categorisation of the species using the site as a nesting and foraging resource during the nesting season, the site is considered to be of **Low ecological value** to breeding and nesting birds and it is not considered that the loss of bird populations and the communities present would be significantly detrimental on a County level.

A number of the Amber listed species recorded on site are likely to be adaptive to the proposed housing scheme and associated landscaping and open space creation, these include Woodpigeon, Song Thrush, Dunnock, and Wren. These species will adapt fairly readily to semi urban landscapes. With appropriate retention of habitats, linear features and the inclusion of suitable nesting features it would be considered reasonable that the housing proposal can provide suitable environments for these species to re-establish territories in the future. A Grey wagtail was seen foraging consistently on-site, the habitats adjacent to the site (Rush Pasture) will be retained providing suitable foraging habitat for the Grey Wagtails.

5.0 ZONE OF INFLUENCE

5.1 Construction Phase

5.1.1 Change in Land Use

The change of use of the site will result in the physical structure of the present site being altered by the proposed development. Site preparation activities will include some earthworks and earth stripping associated with a phased construction. Therefore, the zone of influence is predicted to extend across the development footprint and all protected species and habitats within the development footprint have the potential to be disturbed.

5.1.2 Noise Pollution

Noise associated with construction activities is one of the hardest things to quantify. Noise disturbance occurs as a result of plant operation, traffic movements, and movements of site personnel associated with the continued extraction, crushing, screening and tipping within the application area.

When ground cover or normal unpacked earth is present between the source and receptor, the ground becomes absorptive to noise energy and is called a soft site. This can reduce in-air noise over distance. As these conditions are present on site it is considered that the noise from construction will not travel far past the development boundary. This will be aided by the presence of screening vegetation around the boundary of the site. It is therefore considered that the zone of influence for noise will be within the development boundary itself and 50 meters outside of the boundary.

5.1.3 Air Pollution

Particulates associated with the construction phase of this development will come from three main sources: the vehicles on site (from exhaust emissions, the contact of tyres on the road surface or dust blowing from materials carried via vehicles), stripping of topsoil/vegetation and excavation of footings for the new properties.

The zone of influence for air pollution, particularly dust, will depend on the time of year/weather condition within which works are carried out. For example, in dry conditions there may be dust generated by activities taking place during the construction phase, whereas in wet weather less dust will be generated. It is also dependent on the wind speed at the time of the activity as this determines how far the air pollution will be transported and indeed the direction.

Fugitive dust from development sites is typically deposited within 100-200m of the source; the greatest proportion of which comprise larger particles (greater than 30 microns) is deposited within 100m (Greater London Authority, 2006). Therefore, the zone of influence for air pollution during construction will be the development footprint itself with a 200m buffer.

It is also important to consider the impact of dust on sensitive sites, such as SACs, SPAs, SSSIs and non-statutory wildlife sites in the vicinity of a construction site (Greater London Authority, 2006).

5.2 Operational Phase

The zone of influence associated with the operational phase is extended beyond the site boundaries due to the nature of the development resulting in an increase in human activity and disturbance in the direct vicinity and further afield.

5.2.1 Light

The impact of lighting will be confined within the development footprint itself. There is the possibility of light spilling into adjacent land; however, by retaining and enhancing existing vegetation it is considered this will be minimal. Therefore, the zone of influence will encompass the development footprint with a one-meter buffer along the outside of the boundary.

5.2.2 Air

Pollution will arise from the increased level of traffic and vehicles associated with a housing development of this size. It is outside of the expertise of this report to model the spatial patterns of air dispersion and deposition for various chemicals to allow for close delineation of the area of influence. Therefore, a general consideration of the impacts on nearby notable ecological features will be considered.

5.2.3 Noise

The site is currently screened by vegetation on the majority of all boundaries. The retention of this and additional planting will continue to provide screening for wildlife populations. As the noise associated with this development will not be continuous and will not reach high levels, it is considered that the zone of influence for this development in operation will integrate the development site and 10 meters beyond the boundaries.

6.0 LIKELY ECOLOGICAL IMPACTS IN ABSENCE OF MITIGATION

6.1 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.

6.2 Site Preparation and Construction

6.2.1 Impacts to Habitats

The proposals will predominantly involve the loss of the areas of modified grassland, cereal crops and limited amounts of boundary trees / shrubs (forming part of the hedgerows and treeline) which are all habitats considered to be of **Site - Local** significance. The site will also require a small area of temporary disturbance during construction and small area of permanent damage within the adjacent SINC'S Rush pasture with the construction of a headwall structure on the bank of the stream/ditch. These habitats would be considered to be of **Local-County** significance. The loss of habitat and potential indirect effects would have an **adverse impact** to habitats of **Site-Local- County** value.

6.2.2 Impacts to Wildlife

6.2.2.1 Bats

The site has been identified as being of county importance for commuting bats and county importance for foraging bats with nationally rare Barbastelle bats recorded on site. The works will result in a loss of foraging resources (grassland / scrub) and any disruption to commuting routes (from external lighting) would likely have a **moderate adverse impact** at the **County** level of significance.

6.2.2.2 Reptiles

A 'Low' population of Slow worms were recorded around the boundaries of the site and will be directly impacted upon by the proposed development. Without mitigation procedures put in place, this would result in the direct harm of individuals and a reduction in the local population. This would therefore be contrary to the provisions of the Wildlife & Countryside Act (1981) and would create a significant adverse impact to local reptile populations. This will have a **moderate adverse impact** at the **Local** level of significance.

6.2.2.3 Breeding & Nesting Birds

Whilst the tree lines and woodland situated around the site's boundaries will largely be retained, areas of Bramble scrub and some shrubs associated with these features will require removal and this has the potential to directly impact nests and/or create disturbance. Therefore, it is considered the development will result in a **minor adverse impact** at the **Local** level of significance.

6.3 Site Operation

6.3.1 Impacts to Wildlife

The development may result in an increase in lighting within the general area from street lights and external lights on the new houses. This can affect the behaviour, particularly foraging, of nocturnal wildlife. Therefore, an ***adverse impact is possible*** on Badgers and Bats.

7.0 RECOMMENDED MITIGATION, COMPENSATION & ENHANCEMENTS

7.1 Introduction

The below sections outline the recommended measures to mitigate against any identified impact and where required provide proportionate compensation. In addition to this, measures to provide species specific ecological enhancements are provided with recommendations for habitat enhancements outlined in the BNG report that will accompany this application.

7.2 Bats

7.2.1 Sensitive Lighting

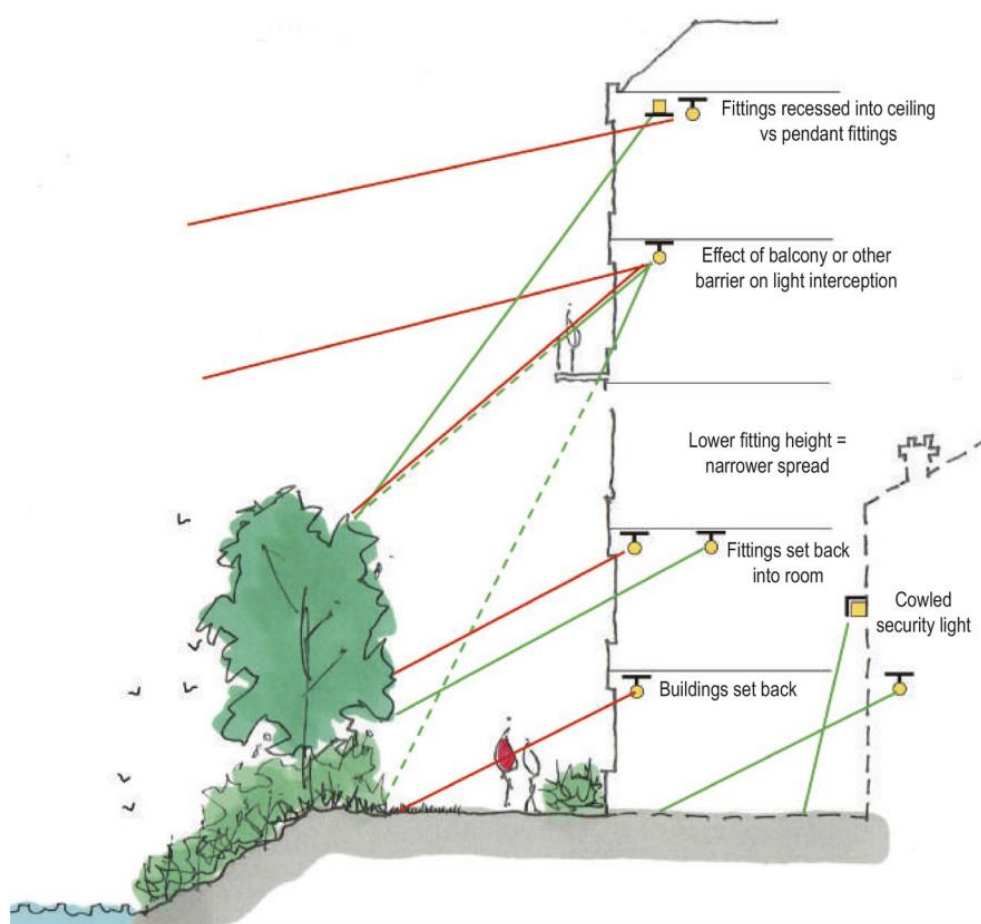
Due to the value of the site to foraging and commuting bats, sensitive lighting is recommended with spill contours and with lux levels on key areas of bat activity (as per **Fig 35** and in particular the areas where Barbastelle were recorded) will be kept at or below 0.5 Lux. Methods through which this can be achieved should be in line with the newly published Guidance Note 08/23 Bats and Artificial Lighting at night (ILP / BCT, 2023) and are outlined below:

'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 35**) 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 35. Internal lighting mitigation options (ILP 2023).



7.2.2 Site Design

The layout has retained the areas of most importance for commuting bats, particularly those where a high concentration of *Myotis spp.* and *Barbastelle* were recorded (**Fig 25**). These areas are to be retained as dark corridors, thereby limiting disturbance to foraging and commuting

bats. This will also aid connectivity to be kept across the site for foraging bats, alongside the retention of ancient woodland, which is a habitat used most often by bats for roosting, in addition to foraging and commuting. The retained line of trees and native hedgerow will also provide these functions, alongside the created trees and retained mature oak trees. Further foraging resources have been provided by the creation of other neutral grassland within the 20m buffer zone, created along the northern, eastern and western boundaries. Furthermore, the bramble scrub will be enhanced to mixed scrub, new trees are being planted and creation of two ponds to provide a source of drinking water and with marginal vegetation planting which will provide alternative foraging resources for bats. A 20m buffer zone is important due to Barbastelles being a rare species in the UK (Wray et al, 2010). In addition, bat boxes and Ibstock bat bricks will be erected on site, adding further roosting spots for bats. **Figure 36** below outlines these mitigation and enhancement strategies.

Figure 36. Features to enhance / mitigate for impacts to bats designed into the scheme.

7.3 Reptiles

Although slow worms were identified on site, given the poor suitability of the majority of the habitats and low population size class, it is not considered a full capture / translocation is necessary. As such, a passive dispersal / push and trim strategy has been proposed and the basis of this is outlined below.

7.3.1 Passive Dispersal Methodology

Given the low population of reptiles recorded on-site in 2023 (peak count 1 adult), precautionary methods in the form of directional strimming should be undertaken to displace reptiles that may be present at the site prior to the construction phase of the development. This will entail the following:

"1. Whilst reptiles are active (April to October, inclusive, weather permitting) the areas of longer rough grassland should be reduced to 150mm in height, and the cut vegetation removed. Vegetation clearance will be carried out using hand tools (such as strimmers, brushcutters, or hand-held shears). This should be completed under the supervision of a suitably qualified ecologist. Any hedgerows and trees affected should be felled using hand tools, and tree stumps/roots left in-situ until after mid-March to avoid impacting hibernating reptiles. Once the first cut down to a height of 150mm has been completed, the grassland areas can then be cut down to ground level in a direction fashion (i.e. to push reptiles from the areas being impacted on out to the areas being retained).

2. After at least 24 hours, a hand search of the area will be undertaken by a suitably qualified ecologist. Any reptiles found will be moved out of harm's way by means of a suitable container into nearby suitable habitat out of the works area.

3. The cuttings / brash from vegetation clearance could be used to construct hibernacula and dead-wood piles within the retained land. Any rubble / stone piles or features with potential to be used as reptile refugia will be carefully checked and removed by hand, under supervision of a suitably qualified ecologist, again during the active season for reptiles;

4. No ground works should be undertaken in the areas of suitable reptile habitat until this precautionary working method is complete. The vegetation in the construction footprint should then be regularly trimmed to ensure that the sward is kept below 150mm in height and remains unsuitable for reptiles during development works."

7.3.2 Destructive Search

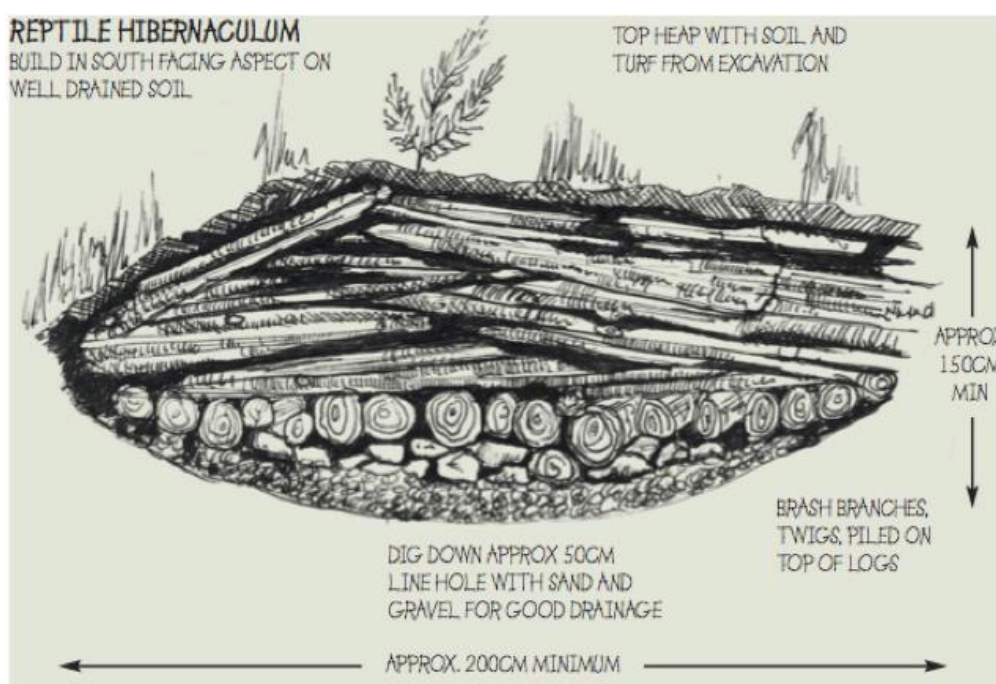
Following the two-stage clearance, a destructive search will be carried out under the supervision of the suitably qualified ecologist. Topsoil will be gently stripped to 100mm depth using a digger with a toothed bucket. The supervising ecologist will capture any reptiles found and relocate them to the suitable habitat adjoining 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 in the grassland to prevent sheltering reptiles.

7.3.3 Habitat Creation / Enhancement

To enhance the long-term suitability of the retained areas for Slow worms, it is recommended that two wood-based hibernacula are created to provide reptiles with a suitable area to hibernate within. This will be created following the specification outlined within Reptile Habitat Management: Guidelines for Landowners (HART, 2009) (**Fig 37**).

Figure 37. Reptile hibernaculum design as provided in HART (2009).



7.4 Breeding & Nesting Birds

In order to avoid disturbance of breeding and nesting birds or damage to their nests, the clearance of any trees / woodland / scrub / longer grassland should take place prior to or after the bird-nesting season (March – August). If this is not possible, the area to be cleared should be thoroughly checked by an ecologist immediately prior to clearance. If any active nests are found, they should be left undisturbed with a suitable buffer of undisturbed vegetation (ca. 5m) until nestlings have fledged.

7.5 Badgers

A 30m buffer zone will need to be implanted around where the main set is located (**Fig 36**) to ensure the setts are protected from the development. During the construction phase, any open excavations left overnight will either be covered to prevent commuting Badgers and Hedgehogs falling in or escape ladders will be used to prevent them from becoming trapped. Any open pipework will be checked and then capped nightly.

7.6 Rush Pasture Translocation

The bigger ecological benefit is that the proposed drainage strategy formalises the existing greenfield run off from the field into the SINC. In doing so via the SuDS network, it will improve the quality of the discharge into the SINC by reducing silt, agricultural run-off, fertiliser and animal waste.

To mitigate for the temporary and permanent loss of the small area of rush pasture a translocation will be proposed with the existing rush pasture within the SINC stored and re-planted over the temporary clearance works and the pasture that will be permanently removed for the headwall, will be translocated and planted around the proposed SUDs on site.

The removal of the rushes will be made in large chunks with as much as possible of the topsoil layer (minimum 30am) to include the roots and rhizomes of the rushes, along with the grasses and perennial herbs, plus the seeds in the soil. The plant material that will be dug up, will be stored in a pile, covered on top and sides with black plastic or tarpaulin to prevent it from drying out, but not fully sealed. This way it can be stored for several months until it can be planted around the new SUDs on the site and back on the areas that are to be temporarily disturbed. **Figure 38** below shows the extent of the works proposed within the SINC.

Figure 38. View of the proposed limited drainage works within the SINC (Green outline).



7.7 Protection of the SINCS.

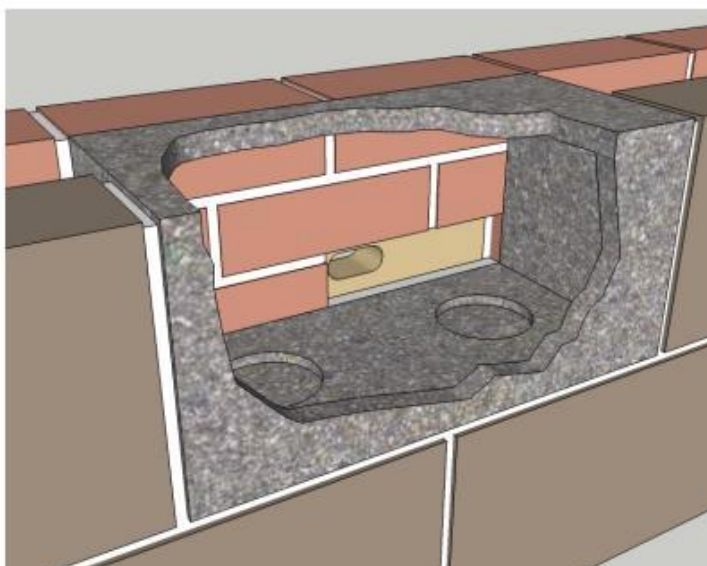
Scorey's Copse and Scorey's Copse Rush Pasture are both located on-site albeit being retained as part of the proposals. A buffer zone of 20m to the north, east and west of the site must be adhered to, to protect the SINCS from the proposed development. This will ensure any disturbance to the SINCS will be mitigated for by the implementation of the buffer zone.

7.8 Enhancements

7.8.1 Birds

To act as biodiversity enhancement, Swift bricks will be incorporated into the new dwellings in a 1:1 ratio to the number of units. The 'CJ Wildlife Swift maxi nesting box' (**Fig 39**) with entrance via a CJ Wildlife 'Cambridge Swift full-face brick' will be used (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.

Figure 39. 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.



The erection of eight nest boxes within the adjacent woodland will provide further enhancements. Where possible this nest box could be tailored to provide opportunities for red listed/BAP species known from the local area. A Vivara open fronted and circular fronted bird boxes will be used (**Fig 40**). This will provide suitable nesting opportunities for a variety of bird species and will increase the nesting opportunities for birds on site.

Figure 40. Vivara open fronted and circular fronted bird boxes to be installed (NHBS).



7.8.2 Bats

Half of the newly built dwellings will also have Ibstock bat bricks (**Fig 41**) integrated within the external brick work. These features are entirely self-contained and available in a variety of 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 41. Ibstock bat brick 'B' which will be integrated into the gable walls of half of the new dwellings on site.



In addition to the integrated bat boxes, the following woodcrete models will also be erected on suitable retained trees around the site's boundary:

- 4 No Vivara Pro Miramare Large Woodstone bat box
- 5 No Vivara Pro Harlech Woodstone bat box
- 6 No Vivara Pro Large Multi Chamber Woodstone bat box

The woodcrete bat boxes will be erected by or under the supervision of an ecologists to ensure they are placed in the most appropriate / effective locations.

7.8.3 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 42**).

Figure 42. Example of Hedgehog Highway signage to be placed above fence gaps provided to allow movements between gardens.



7.8.4 Native Tree / Shrub Planting

As a general enhancement, any new landscape planting will aim for a minimum 70:30 ratio in favour of native species over non-natives and ornamentals (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*), Holly (*Ilex aquifolium*), Silver Birch (*Betula pendula*), Small-leaved Lime (*Tilia cordata*) and Willow (*Salix* spp.). Non-natives and ornamentals should only be given a bias in formal locations where aesthetics is a priority.

Planting a mixture of flowering plants, trees (including fruit trees) and shrubs encourages a diversity of insects to sustain bats. It is beneficial that the flowers vary in colour (although pale flowers 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 increase opportunities for insects and in turn foraging bats and these will be included within marginal habitats where appropriate.

7.9 Biodiversity Net Gain (BNG)

A full biodiversity net gain assessment using the Biodiversity Statutory Metric will be conducted and a BNG report will be produced as a separate document outlining the habitat management required on-site.

8.0 REFERENCES

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