



LITTLEDEAN, BOTLEY ROAD, EASTLEIGH
ECOLOGICAL IMPACT ASSESSMENT

27/01/2025

CLIENT: Mr & Mrs Doe

PROJECT NO.: LITTLE-069-2024

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Executive Summary

SoEcology Ltd was commissioned by Mr and Mrs Doe to produce an Ecological Impact Assessment report to support a planning application for Littledean, Botley Road, Horton Heath, Eastleigh, SO50 7DN, grid reference: SU 4967 1722

The development proposals are for the removal of the mobile home within the rear garden of Littledean and the installation of a permanent single-storey dwelling.

A Preliminary Ecological Appraisal was undertaken in December 2024. The survey identified the Site to be dominated by hardstanding (0.078ha), buildings (0.021ha) and vegetated garden (0.032ha) and two mature oaks. The mature oaks are the most notable habitats on-site, assessed to be of local value and are to be retained as part of the proposals.

The Site is located within the zone of influence of the following designated sites Solent Maritime SAC and Solent and Southampton Water SPA, located 5km south. These designations have adopted a mitigation strategy whereby any development resulting in a net increase in dwellings within a 5.6km radius are within the identified zone of influence for recreational impacts. Therefore, mitigation has been provided in this report in the form of financial contributions, in accordance with the Solent mitigation strategy.

The proposals are exempt from the Environment Act 2021 and a quantifiable 10% net gain in biodiversity is not required, as the proposals are anticipated to result in the removal of no more than 3m² of vegetated garden and developments impacting less than 25m² of non-priority habitat are exempt. The exemption is explained in greater detail in Section 2.2. However, the development still needs to demonstrate net gain as part of the NPPF and local policy. Biodiversity enhancement will be inherently achieved within the design, as the proposals will result in a net reduction of hardstanding, as a vegetated garden will be created immediately behind the existing bungalow which is currently hardstanding. Furthermore, hedging is proposed around most of the site boundaries which is currently only close board fencing.

The following protected species are considered likely absent: great crested newt, reptiles, badger and hedgehog. The Site is assessed to be no greater than site value for the following protected species: plants, invertebrates, nesting birds and bats. Further assessment of ecological receptors evaluated at "site value" is only required when deemed necessary to ensure compliance with legislation and best practice. On this basis, mitigation and compensation measures are not deemed necessary for the following protected/notable species: plants, invertebrates and nesting birds. Mitigation and assessment of residual effects is provided for bats. The mitigation includes external lighting control measures.

Compensation measures were not deemed necessary due to the existing baseline and the design proposals. Enhancement measures to improve the existing designs value for wildlife have been provided in accordance with NPPF and Local Planning Policy.

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1 Introduction

SoEcology Ltd was commissioned by Mr and Mrs Doe to produce an Ecological Impact Assessment (EclA) report to support a planning application for Littledean, Botley Road, Horton Heath, Eastleigh, SO50 7DN, grid reference: SU 4967 1722.

The purpose of the EclA report is to support a planning application for the removal of the mobile home within the rear garden of Littledean and the installation of a permanent single-storey dwelling.

The Site covers an area of approximately 0.13ha and is dominated by hardstanding (0.078ha), with buildings (0.021ha) and vegetated garden (0.032ha) and two mature oaks.

The proposals will retain the existing mature oaks and vegetated garden, with the potential of a minor loss ($\sim 3\text{m}^2$) of garden lawn. The design will result in a net increase in vegetated garden as the land immediately behind the existing Littledean bungalow is currently hardstanding leading up to the mobile home and is proposed to be an enclosed vegetated garden. Furthermore, the Site boundaries currently comprise close board fencing and will be planted with hedging and scattered trees.

The purpose of an EclA report is:

- To identify potential significant ecological effects associated with the development proposals;
- To provide appropriate mitigation measures to ensure compliance to relevant policies and legislation (see Section 2);
- To provide an assessment of significant residual effect;
- To identify how mitigation measures will be secured;
- To identify appropriate compensation and enhancement measures to negate any negative significant residual effects and with the aim of achieving a net gain in biodiversity, in compliance with relevant policy; and
- To set out requirements for post-construction monitoring, if required.

This report is suitable to support the planning application proposed at the time of this report write-up. This report may require amending if the proposals change since the report submission date displayed on the front page. It is important to note that the survey results are valid for 12 months from the date of the last site visit. If this time elapses prior to planning submission, updating surveys will be required.

This report was written by Sophie Lancaster, an Ecologist working in private consultancies since 2013. Sophie has completed a masters (MSc) in Environmental Consultancy and is an Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM). Sophie holds protected species licences for bats (level 2 class licence) and great crested newt (class 1). Sophie is a capable botanist and has undertaken National Vegetation Classifications and is thus capable of undertaking UKHab surveys to Level 5. Sophie has undergone formal training for UKHab assessments and the Biodiversity Metric through CIEEM. Sophie keeps up to date on the changes in Biodiversity Metric and attends available webinars.

2 Planning Policy and Legislation

This section does not provide a comprehensive list of nature conservation policies and legislation within the United Kingdom. The policies and legislation listed below are those relevant to the project only.

2.1 National Planning Policy

The most recent National Planning Policy Framework (NPPF) was published in December 2024. The NPPF sets out the Government's planning policies for England and how these should be applied. Paragraphs of relevance within the NPPF include:

Paragraph 187 of the NPPF states that *"Planning policies and decisions should contribute to and enhance the natural and local environment by:/... minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs."*

Paragraph 188 of the NPPF states that *"plans should/... take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries."*

Paragraph 192 of the NPPF states that *"To protect and enhance biodiversity and geodiversity, plans should:*

- a) 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
- b) 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.

Paragraph 193 of the NPPF states that *"When determining planning applications, local planning authorities should apply the following principles:*

- a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons¹ and a suitable compensation strategy exists; and*

¹ For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

- 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.*

Paragraph 194 of the NPPF also states that potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are to be afforded the same protection as designated Special Protection Areas, Special Areas of Conservation and Ramsar sites.

The NPPF is also complemented by the Circular 06/2005: Biodiversity and Geographical Conservation – Statutory Obligations and Their Impacts Within The Planning System (Office of the Deputy Prime Minister, 2005). Paragraph 99 states that *“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.”*

2.2 The Environment Act

The Environment Act was passed in November 2021, after the Environment Bill received Royal Assent. Under Schedule 14 of the Act biodiversity net gain is a mandatory condition for planning applications, with most developments required to achieve a 10% net gain in biodiversity. The following developments are exempt:

- Development that does not impact priority habitat and impacts less than 25m² of on-site habitat and 5m of on-site linear habitat (hedgerows). Total habitat loss is determined by baseline survey data, which must take into account where unauthorised degradation of the onsite habitat has taken place on the land post 30 January 2020. Where such degradation has occurred, the pre-development biodiversity value must be used within the metric. If activities to implement or in connection with a planning permission are carried out after 25 August 2023 that lower the biodiversity value of the onsite habitat, the pre-development biodiversity value of the onsite habitat is taken to be the biodiversity value immediately before the carrying out of the activities.
- Householder applications (e.g. extensions or loft conversions).
- Self-build and custom build applications consisting no more than 9 dwellings, site area less than 0.5ha and fulfils “self build and custom housebuilding” definition, which is that it is to be occupied as a sole or main residence by the individuals.

This Site fulfils the exemption requirements detailed in bullet point one above, as the baseline survey confirmed that the Site does not support priority habitat and the proposals will not result in the loss of less than 25m² of habitat, due to the existing extent of building and hardstanding present. The baseline value is based on the December 2024 survey data, as although the garden has undergone changes since 30th January 2020, with the inclusion of a mobile home, a lawful development certificate was attained for the mobile home on 16th June 2023 and works were carried out pre-25th August 2023, planning reference: LDC/23/95090.

2.3 Local Planning Policy

The Eastleigh Borough Local Plan 2016-2036 was adopted in April 2022. The overarching Policy DM11: Nature Conservation, refers specifically to ecology and biodiversity:

General approach:

- I. 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

- II. 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.
- III. 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

- IV. 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

- V. 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

- VI. 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

- VII. 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

- VIII. Development will not be permitted unless it can be demonstrated that:
- a) there have been thorough habitat and species surveys;
 - b) the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond; and
 - c) the strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat networks.

2.4 International Designated Sites

Internationally designated sites include Special Protection Areas (SPAs), Ramsar sites and Special Areas of Conservation (SAC).

SPAs, Ramsar sites and SACs form the Natura 2000 network of sites of nature conservation significance within Europe. SACs are designated under the Habitats Directive² to ensure the favourable conservation status of each habitat type and species. SPA's are designated under the Birds Directive and are designated for 194 threatened species, all of which being migratory bird species. Ramsar are afforded to wetlands of international importance, designated under the Ramsar Convention.

Within the UK these designations are protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and Local Planning Authorities (LPA) are required to review all planning applications for potential to affect internationally designated sites. The application site does not need to be on or adjacent to an internationally designated site to have a potential impact. Where an LPA deems a significant effect on a European site to be likely, an Appropriate Assessment is to be undertaken to determine the implications of the development for the site's conservation objectives.

2.5 Non-statutory Locally Designated Sites

Non-statutory designations are site designated by Local Authorities for their nature conservation value at a local level. The name given to such designations differs between Local Authorities from Local Wildlife Sites (LWSs), Sites of Importance to Nature Conservation (SINCs) or Sites of Nature Conservation Importance (SNCIs). The means of their protection is the same as for LNR (see paragraph **Error! Reference source not found.**).

2.6 Protected Species Legislation

2.6.1 Reptiles

There are six species of reptile within the UK. The smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are our only European protected species under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended), which makes it an offence to:

- a) Deliberately capture, injure or kill;
- b) Deliberately disturb or recklessly disturb whilst in its structure or place of shelter or protection;

² Council Directive on the conservation of wild birds of 2nd April 1979 (79/409/EEC) and Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora of 21st May 1992

- c) Damage or destroy a breeding site or resting place;
- d) Obstruct access to structures or places of shelter and protection;
- e) Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal; and
- f) Take or destroy eggs.

If found guilty of any of the above offences you can be sent to prison for up to six months and receive an unlimited fine.

Slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, adder *Vipera berus* and grass snake *Natrix helvetica* are protected in the UK under Schedule 5 of the Wildlife and Countryside Act (1981), which makes it illegal to intentionally kill, injure, sell or trade such animals.

2.6.2 Bats

All UK species of bat are fully protected as a European Protected Species under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended), which makes it an offence to:

- a) Deliberately capture, injure or kill;
- b) Deliberately disturb a bat while in a structure or place of shelter or protection;
- c) Damage or destroy a breeding site or resting place;
- d) Obstruct access to their resting or sheltering place; and
- e) Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal.

If found guilty of any of the above offences you can be sent to prison for up to six months and receive an unlimited fine.

Foraging and commuting routes are not directly protected under the legislation, however, there is potential for the loss of habitats or alterations (e.g. increased light pollution) could result in an offence being committed. The loss of the only suitable commuting habitat to a roost could result in the damage /destruction/obstruction of a roost.

Four British bat species are afforded additional protection under Annex II of the Habitats Directive. These species include barbastelle *Barbastella barbastellus*; Bechstein's bat *Myotis bechsteinii*; greater horseshoe bat *Rhinolophus ferrumequinum*; and, lesser horseshoe bat *Rhinolophus hipposideros*. Species listed on Annex II are those where their conservation requires the designation of SACs.

2.6.3 Habitats and Species of Principle Importance

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, provides a list of habitats and species of principle importance for the conservation of biodiversity in England. The list provided under Section 41 succeeds the UK Biodiversity Action Plan (BAP). Section 40 of the NERC Act requires governing bodies such as LPA's to ensure the conservation of biodiversity is regarded during their decision making process. The species list includes many species referred to within Section 2.0 of this report, as well as, brown hare *Lepus europaeus* and harvest mouse *Micromys minutus*.

3 Methodology

This section of the report details the scope of the assessment, data acquired, surveys undertaken and how potential impacts are assessed.

3.1 Scope of the Assessment

For all projects it is imperative that the zone of influence is established. CIEEM defines zone of influence to be *“the area over which ecological features may be affected by biophysical changes as a result of the proposed project and associated activities”* (CIEEM, 2018). The zone of influence is determined by a suitably experienced ecologist, taking into consideration the site proposals, desk study and field survey results. The zone of influence differs for each ecological feature³. Section 4.0 identifies the projects zone of influence for each ecological feature.

The scope of the assessment initially takes into consideration all possible ecological features that have potential to be impacted by the proposal. The baseline ecological conditions (Section 4.0) includes the outcomes of the desk study and field survey(s), which results in a process of elimination, with ecological features assessed to be likely absent not considered further in the report. Scoping is an ongoing process influenced by further surveys and assessment. Further surveys are required where an impact on an ecological feature cannot be avoided.

3.2 Desk Study

3.2.1 Local Environmental Record Centre

A data search was obtained from Hampshire Biological Information Centre (HBIC) for protected species and habitats within a 500m radius. A wider radius was not deemed necessary due to the small scale and nature of the proposals.

3.2.2 Multi-Agency Geographic Information for the Countryside

Defra’s Multi-Agency Geographic Information for the Countryside (MAGIC) online resource was also accessed in January 2025. A search was undertaken to identify any statutory designated sites within a 2km radius and to detect whether the Site is located within the varying buffer zones of internationally designated sites, which require additional consideration in regard to in-direct effects. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs. MAGIC was also accessed to identify any European Protected Species (EPS) mitigation licence applications for protected species within a 2km radius and to identify whether the Site is within the Core Sustenance Zone (CSZ)⁴ for a communal bat roost, to help define the Zone of Influence for the species.

3.2.3 Additional Data Sources

Online mapping resources such as OS mapping was used to identify the presence of habitats such as ponds and woodland and hedgerow networks within the surrounding landscape to aid in assessing the Sites connectivity to notable habitats/green corridors and its potential for protected and notable species colonisation. Particular attention was given to the presence of ponds and other waterbodies within a 500m metre (m) radius to assess the Sites potential to support great crested newt. Nature Space Partnership Eastleigh Borough Council – Impact Risk Zones map (Nature Space Partnership,

³ Ecological features – habitats, species and ecosystems that may be affected given the nature of the proposals and geographical location of the application site.

⁴ Core Sustenance Zone (CSZ) is defined as “the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost” (Collins, 2016).

2024) is also reviewed, where deemed necessary, to aid in the Sites assessment in relation to great crested newt.

GoogleEarth and MAGIC maps were used to collate existing baseline habitat data in advance of the habitat survey to plan the survey appropriate and determining the hierarchical level of classification and scale of mapping required (Butcher, 2020). GoogleEarth timeline is also useful for determining historic management and the possibility for ecological features to be present despite existing sub-optimal conditions, due to habitual tendencies. Eastleigh Borough Council planning portal was accessed to help determine whether the Site is exempt from Environment Act 2021 10% biodiversity net gain commitments.

3.3 Field Survey

Habitat Survey

The survey followed the UK Habitat Classification (UKHab) system (UKHab Ltd, 2023). This classification system integrates with the Phase 1 habitat survey classification which has been the prominent mapping system for ecologists until recently. UKHab also integrates NVC, European Nature Information System (EUNIS) and Farm Environment Plan (FEP). The UKHab is also the classification system for in Natural England's Statutory Biodiversity Metric and thus, is used to determine biodiversity net loss/gain resulting from a development.

UKHab is hierarchical in the level of classification that can be attained, comprising a total of 5 levels. Level 1 being broad and Level 5 being very specific (NVC level classification). This survey followed the professional edition hierarchy (UKHab-P) and surveyed up to Level 4.

Extra detail on the classified habitats is provided by the inclusion of secondary codes. Secondary codes provide additional information on the environment, management and origin of mapped features. Secondary codes also replace mosaic habitats, which are now mapped by the primary habitat with a secondary code combination. In some instances, secondary codes provide important subdivisions of habitats not covered by Primary Habitat levels and are always included where relevant within a survey.

The Site is mapped on a landscape scale and thus, the minimum mapping unit (MMU) 4m² polygon and 20m length is considered appropriate.

The UKHab survey is mapped using QGIS mapping software. The key follows the UK Hab Basic Edition Suggested Symbolology (Butcher, 2020). A table of the variations of primary and secondary codes recorded on site is in Section 4.2 of this report.

For each habitat species composition, management, vegetation structure and age or permanence, where evident is recorded and an assessment of the habitats suitability to support protected and notable species is undertaken. Condition of the habitat is also recorded taking into consideration the condition criteria established in Natural England's Statutory Biodiversity Metric.

Preliminary bat Roost Assessment

The habitat survey considers the potential for protected species, as mentioned in the above paragraph, however, some species require more detailed assessment in the field to confirm potential for presence, such as roosting bats. For this reason, Preliminary bat Roost Assessment is detailed separately in this methodology, below.

The buildings on-site were assessed for its roosting bat suitability in accordance with the Bat Conservation Trust (BCT) best practice guidance (Collins, 2023). This includes a search of the external

elevations for evidence of bats such as droppings and urine staining and potential roosting features such as lifted tiles and fascia's. The Equipment used during the PRA of the buildings includes a recording form, a camera, binoculars, high powered torch.

An internal inspection was not deemed necessary as Littledean bungalow is not to be directly impacted by the proposals and the summer house and mobile home do not comprise internal spaces that could be occupied by bats.

The Equipment used during a PRA of trees includes a recording form and a camera. A telescopic ladder was not used as it was not deemed necessary due to the nature of the proposals.

Recordings were made of any Potential Roosting Features (PRFs) formed by disease and decay⁵, damage⁶ and association⁷ (BTHK, 2018). The desk-study assessing which species of bat are likely to occupy the Site using aerial footage is considered alongside the PRA field survey data attained to help in determining the trees potential to support a bat roost and the potential need for survey effort in accordance with best practice guidance (Collins, 2023).

Table 3-1: BCT guidelines on assessing potential suitability and subsequent mitigation.

Potential suitability	Description	Mitigation
None	No habitat features on site likely to be used by any roosting bats at any time of year (complete absence of crevices or suitable shelter).	None
Negligible	No obvious habitat features on-site. However, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.	Professional judgement. Precautionary measures likely.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. The potential roost site does not provide enough space, shelter, protection, appropriate conditions, or suitable surrounding habitat to be used by large numbers of bats.	Buildings: One dusk emergence survey. May to August. Trees: precautionary measures likely.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation significance (e.g. maternity or hibernation roost).	Two dusk emergence survey visits. May to September, with at least one survey between May and August
High	A structure with one or more potential roost sites that are obviously suitable for large numbers of bats on a more regular basis and potentially longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support a roost of high conservation significance.	Three dusk emergence survey visits. May to September, with at least two surveys between May and August

The habitat survey and PRA was undertaken by SoEcology Ltd Ecologist Sophie Lancaster. Sophie attained an MSc in environmental Consultancy in 2013, since which she has worked full-time as an

5 E.g. woodpecker-holes, squirrel-holes, knot-holes, pruning-cuts, tear-outs, wounds, cankers, compression forks & butt-rots
6 E.g. lighting-strikes, hazard-beams, subsidence-cracks, shearing-cracks, transverse-snaps, welds, lifting bark, desiccation-fissures, and, frost-cracks.
7 E.g. fluting and ivy.

Ecologist for private consultancies undertaking habitat and protected species surveys. Sophie is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The survey was undertaken on the 04 December 2024 at 10am and for the duration of the survey the weather was 4°C/Beaufort scale 1/100% cloud cover.

3.3.1 Limitations

The desk-top study data does not provide an exhaustive list of species present within the surrounding area and is only used to aid in the assessment in determining the likelihood of presence and inform the zone of influence of a project.

The PRA of the trees was a ground assessment only and not all PRFs are accessible to the surveyor, e.g. gaps holes or cracks in trees greater than 2m in height, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities. Due to the survey being undertaken during the winter period, there were no visual limitations associated with foliage masking potential features.

The Survey was undertaken in winter, which is considered sub-optimal for habitat assessments. However, due to the existing habitat baseline and its position; surrounding dense residential development. The habitat assessment was confidently undertaken and habitats mapped accurately.

It is not possible for the surveyor to confirm presence/likely absence for all ecological receptors and assessments are made on the likelihood of presence based on whether there is suitable habitat on-site, the site connectivity and geographical positioning and desk-top study data.

3.4 Assessment

The assessment evaluates the importance of ecological features and the impact and residual effect of a development in accordance with CIEEM (2018) guidance⁸.

The importance of an ecological feature is based on geographical context, in accordance with the following scale of reference:

- International and European
- National
- Regional
- County
- River Basin District
- Local
- Site
- Negligible⁹ or likely absent¹⁰

The geographical evaluation is determined by professional judgement and legislation and policy documents and data on the distribution of species and habitats. Ecological features assessed as “negligible” or “likely absent” are not considered beyond Section 4.0. Ecological features assessed to be of site value in Section 4.0 are not considered to be important at a geographical scale and can be scoped out of further assessment. However, the loss of ecological features of “site value” may be considered cumulatively for compensation and/or enhancement measures to adhere to national and

⁸ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

⁹ E.g. Land absent of vegetation e.g. hardstanding and buildings

¹⁰ Protected species assessed to be likely absent from Site.

local policy e.g. no net loss of biodiversity. It is important to note that habitats are assessed separately to species and a habitat assessed to be of site value or negligible value may have potential or be confirmed to support protected species and will indirectly undergo further assessment regarding said specie(s).

The assessment considers potential impacts on each ecological feature assessed to be of local value or greater from all phases of the development e.g. construction, operation and decommissioning. The impacts are characterised as follows:

- Complexity – e.g. direct/indirect, cumulative
- Positive or negative
- Magnitude – numerical value of area of habitat lost and percentage decline in species population.
- Extent – the spatial or geographical area the impact may occur
- Duration – timeframe of impact, taking in consideration the life cycle of the species impacted
- Reversibility – can determine the significance of the effect as some habitats/populations are easier and quicker to replace/recover than others
- Frequency – this can influence the resulting effect e.g. recreational activity
- Timing – similar to frequency and can avoid impacts in some instances.

Once impacts of the proposal have been established attempts are to be made to avoid and mitigate negative impacts. Once the measures to avoid and mitigate ecological impacts have been finalised, an assessment of the residual impact(s) is to be undertaken to determine the significance of the effects on ecological features. Where significant residual effects cannot be avoided compensatory measures are to be provided. Compensatory measures will be considered against ecological objectives in determining the outcome of the application. Compensation measures are detailed in a separate section of this report, alongside recommendations for enhancements. This clear differentiation between avoidance/mitigation, compensation and enhancement, ensures the report adheres to the 'mitigation hierarchy'.

Where the residual impact is so minor that the proposals are unlikely to have an effect on an ecological feature at a local scale or above, then the significance of the residual impact is referred to as 'non-significant positive/negative effect'.

A significant effect is referenced to a geographical scale, taking into consideration the geographical importance of an ecological feature and the overall scale of impact the proposals will have on the ecological feature itself. Significant effect is specified in CIEEM (2018), as follows:

"Significant effect is simply an effect that is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project. A significant effect is a positive or negative ecological effect that should be given weight in judging whether to authorise a project: it can influence whether permission is given or refused and, if given, whether the effect is important enough to warrant conditions, restrictions or further requirements such as monitoring."

The EclA report will accord to the precautionary principle and where uncertainty exists for determining no significant effect, a significant effect is to be assumed.

4 Baseline Ecological Conditions

This section of the report details the baseline ecological conditions of the Site based on the desktop study, UKHab survey results and potential for protected species presence. An assessment of ecological value at a geographical scale is made for each ecological feature based on the survey results.

4.1 Designated Sites

The desk top study identified no statutory designations within a 2km radius of the Site. The Site is however, within the 5.6km buffer zone of international statutory designations named Solent & Southampton Water SPA and Solent Maritime SAC, located 5km south.

There is one non-statutory designation located approximately 300m south named Scoreys Copse Meadow SINC. The SINC is designate for its *“grasslands which have become impoverished through inappropriate management, but which retain sufficient elements of relic unimproved grassland to enable recovery”*.

There is no priority habitat present on or adjacent to the Site, with the nearest priority habitat being coastal floodplain and grazing marsh and lowland mixed deciduous woodland located 250m south-east.

The Site is located within the 5.6km agreed Zone of Influence (Zoi) of international statutory designations named Solent Maritime SAC and Solent and Southampton Water SPA. The adopted mitigation strategy states that any developments that will result in a net increase in dwellings needs to provide mitigation and compensation measures. The proposals will result in the removal of a temporary mobile home to be replaced with a permanent dwelling. Therefore, there is potential for the proposals to result in an increase in recreational pressure in the long-term and impacts on Solent Maritime SAC and Solent and Southampton Water SPA are considered in Section 5 of this report.

4.2 Habitats

The habitats present on-site are listed in Table 4-1 below. The table should be read in conjunction with the UKHab survey plan, found in Appendix 10.2.

Table 4-1: List of habitats present on-site based on the UKHab classification system and the geographical scale of value of each habitat.

UKHab Primary Code	UKHab Secondary Code	Description	Scale of Importance
U1b	-	Developed land; sealed surface	Site
U1b5	-	Buildings	Site
U1	510; 827	Built-up areas and gardens – <i>bare ground; garden</i>	Site

Hardstanding predominates on-site with a total area of approximately 780m² (photographs 1, 2, 3, 9, 10, 17, 30). The buildings on-site make up a total area of approximately 210m² and include a brick-built bungalow with concrete interlocking tiles (photographs 1, 4 to 9), a ship-lap and bitumen felt flat roof summer house (photograph 11) and a mobile home (photographs 13 to 16).

The remaining land is 317m² of vegetated garden, which comprises roughly 50% bare ground located around the Site boundary and beneath the tree canopies and 50% grass lawn (photographs 18, 19, 21 to 25 and 29). The species recorded include: abundant perennial rye-grass *Lolium perenne*, locally abundant bittercress *Cardamine* sp., prickly sow-thistle *Sonchus asper* and forget-me-not *Myosotis*

sp., occasional annual meadow-grass *Poa annua*, smooth sow-thistle *S. oleraceus*, willowherb *Epilobium* sp., creeping buttercup *Ranunculus repens* and dandelion *Taraxacum officinale*, and rare amount of wood avens *Geum urbanum*, common nettle *Urtica dioica*, soft rush *Juncus effusus*, iris *Iris* sp. and greater plantain *Plantago major*.

Two mature (203) oak *Quercus* sp. trees are located on the far eastern end of the Site (photographs 26 to 28), the tree on the far north-east corner is approximately 60-90cm Diameter at Breast Height (DBH) and the other is larger at more than 90cm DBH. The mature oaks are assessed to be of **local value** as they are not common within such dense residential areas and are surviving remnants of historic woodland or farm boundaries and their loss would be difficult to compensate for due to their age.

4.3 Protected Species

4.3.1 Plants

The survey did not record any flora species of conservation significance, which is to be expected from a garden plot bounded by existing residential development and no invasive species were identified during the survey.

Overall, the Site does not support flora of geographical significance and thus, the flora on-site is assessed to be no greater than **site value**.

4.3.2 Invertebrates

The HBIC record search returned records of the following priority invertebrate species within a 500m radius that can be found in residential plots: stag beetle *Lecanus cervus*, knot grass *Acronicta rumicis*, beaded chestnut *Agrochola lychnidis*, green-brindled crescent *Allophyes oxyacanthae*, mouse moth *Amphipyra tragopoginis*, dusky brocade *Apamea remissa*, garden tiger *Arctia caja*, mottled rustic *Caradrina Morpheus*, the sallow *Cirrhia icteritia*, small heath *Coenonympha pamphilus*, small square-spot *Diarsia rubi*, small phoenix *Ecliptopera silaceata*, september thorn *Ennomos erosaria*, ghost moth *Hepialus humuli*, the rustic *Hoplodrina blanda*, rosy rustic *Hydraecia micacea*, shoulder-striped wainscot *Leucania comma*, brindled beauty *Lycia hirtaria*, the lackey *Malacosoma Neustria*, dot moth *Melanchra persicariae*, mullein wave *Scopula marginepunctata*, shaded broad-bar *Scotopteryx chenopodiata*, white ermine *Spilosoma lubricipeda*, buff ermine *Spilosoma lutea*, blood-vein *Timandra comae*, cinnabar *Tyria jacobaeae*, oak hook-tip *Watsonalla binaria*, and dark-barred twin-spot carpet *Xanthorhoe ferrugata*.

The quantity of priority invertebrate records is higher than average and the records are predominantly from a single grid reference location and thus, are likely from a single enthusiast recorder.

The log pile recorded on the lawn is likely to be a new and temporary pile and is unlikely to have potential to support notable saprophytic invertebrates, such as stag beetle.

The Site offers limited nectar resource for invertebrates in the condition recorded during the survey and due to the small size and historic use as a private garden, it is unlikely that notable species and assemblages rely on it now or in recent decades. Overall, the Site is assessed to be of **Site Value** for invertebrates.

4.3.3 Amphibians

HBIC returned no records of amphibians within a 500m radius. Magic returned records of three European Protected Species (EPS) mitigation licences for great crested newt within a 2km radius. All three records are roughly within the same location with the nearest record from 2009 located approximately 870m north-west at its closest point. A second great crested newt record distanced

from the three EPS licences is located 1.2km south-west and is a confirmed result from pond surveys undertaken between 2017-2019.

The rural area surrounding Horton Heath is suitable for supporting great crested newt, however, the residential area itself is sub-optimal as it lacks suitable breeding habitat and is heavily fragmented by infrastructure and garden divides associated with such dense housing. The Site is relatively centrally positioned within Horton Heath's dense residential area.

The Site does not support any waterbodies and lacks suitable terrestrial habitat, with the only potential suitable sheltering habitat being a log pile (photograph 20), which is likely new and a temporary feature. A review of OS mapping and aerial imagery did not record any waterbodies within a 250m radius, which is a recognised maximum dispersal range for the species (Franklin, 1993) (Oldham, 1986) (Jehle, 2000).

Overall, colonisation on to Site is considered highly unlikely and great crested newt are considered **likely absent** and are not considered further in this report.

4.3.4 Reptiles

The record search from HBIC did not return any records of reptiles within a 500m radius within the last 10 years.

The Site is dominated by developed land that is unsuitable for reptiles. The small area of soft landscaping does not comprise dense ground cover or a litter layer that can be utilised by sheltering reptiles. The only suitable sheltering habitat recorded on-site, is the log pile, centrally positioned in the lawn, which is likely newly formed and temporary. Also taking into consideration the absence of gaps beneath the surrounding fence line colonisation by reptiles is considered unlikely.

The Site is relatively centrally positioned within the residential area of Horton Heath and the only reptile species considered likely to be present within the gardens of such a landscape are widespread varieties, predominantly slow-worm.

Overall, colonisation onto Site is considered highly unlikely and thus reptiles are considered **likely absent**.

4.3.5 Birds

The record search from HBIC returned records of numerous species of birds within a 500m radius. Those considered relevant to the Site include house sparrow *Passer domesticus*, starling *Sturnus vulgaris*, redwing *Turdus iliacus*, song thrush *T. philomelos*, fieldfare *T. pilaris* and mistle thrush *T. viscivorus*.

The only suitable nesting bird habitat recorded on-site are the two oak trees on the eastern end. The Site does not offer valuable nesting opportunities within the local area and is assessed to be of **site value** for nesting birds.

4.3.6 Badgers

HBIC did not return records of badger within a 500m radius.

The likelihood of badger being present on-site is considered low due to the absence of evidence recorded during the survey, with no evidence of mammal tunnelling beneath the garden fence or damage to the fence. The Site comprises a very small total area of suitable foraging habitat (317m²) and its use as a commuting route is highly unlikely as it is not positioned between optimal habitat for

badgers and is located within a heavily fragmented residential area. Overall badgers are considered **likely absent**.

4.3.7 Bats

HBIC returned records of at least three bat species within a 500m radius in the last 10 years. The data did not include species considered rare and afforded extra protection under Annex II of the Habitats Directive. Species recorded include soprano pipistrelle *Pipistrellus pygmaeus* and noctule *Nyctalus noctula*.

HBIC returned one confirmed bat roost location within a 500m radius of the Site. The bat roost record is from 2017, of common pipistrelle bat located approximately 350m west.

Magic returned records of six European Protected Species (EPS) mitigation licence applications to facilitate the destruction/damage of resting places and breeding sites within a 2km radius. The closest licence application is from 2019 located approximately 500m west. The licence was granted to lawfully facilitate the destruction of a breeding site and resting place of brown long-eared bat *Plecotus auritus*, common pipistrelle and natterer's bat *Myotis nattereri*. It is unknown which bat species the maternity roost is in relation to.

Table 4-2 below provides a comprehensive result of known bat roost locations and EPS licence applications for bat roosts within a 2km radius.

Table 4-2: Locations of bat roosts recorded within a 2km radius of the Site in the past 10 years.

Roost Location	Year of Record	Bat species	Roost Status	EPS Licence Ref.
350m west	2017	Common pipistrelle	Unknown	-
500m west	2019	Brown long-eared bat, common pipistrelle and natterer's bat.	Breeding and non-breeding roosts.	2019-39527-EPS-MIT
870m south-east	2018	Common pipistrelle	Non-breeding	2018-36779-EPS-MIT
1.1km north-west	2019	Common pipistrelle and soprano pipistrelle	Non-breeding	2019-39954-EPS-MIT
1.17km north-west	2020	Soprano pipistrelle	Non-breeding	2020-48450-EPS-MIT
1.35km east	2014	Common pipistrelle and soprano pipistrelle	Non-breeding	2014-1914-EPS-MIT
1.93km south-east	2020	Brown long-eared bat and common pipistrelle	Non-breeding	2020-49807-EPS-MIT

Much of the Site lacks suitable foraging and commuting habitat. The Sites position within the residential area of Horton Heath is relatively central and there is no clear foraging and commuting route associated with the rear gardens. The oak trees on the far eastern end of the Site are likely part of a historic field boundary as mature trees continue in a straight line eastward until they reach the eastern edge of the residential area. This tree line is fragmented and located within a lit residential area and is not connected to any further suitable foraging and commuting habitat west, north or south and thus is likely used for foraging at low levels by more light tolerant species. Overall, the Site is not considered to be greater than **site value** for bat activity.

The two oak trees were not recorded to support any notable potential roosting features, such as large cavities. However, due to their large size, the potential for roosting opportunities such as lifted bark

not visible from the ground is possible. Overall, the trees are assessed to be of **low suitability** for roosting bats.

The mobile home and summer house inherently lack suitable opportunities for roosting bats and the bungalow was assessed to be in very good condition, with the roof tiles being flush and the uPVC soffits also flush to the brick wall with no gaps evident. Potential roosting features were recorded at the front of the bungalow only in the form of a couple of tiles next to the ridge line showing minor lifting and a small area of mortar missing underneath a ridge tile. These features are facing the main road where column streetlights are present. Therefore, the potential for bats roosting within the bungalow is considered **negligible to low**.

4.3.8 Other Wildlife

The HBIC record search returned numerous records of hedgehog *Erinaceus europaeus* within a 500m radius. Hedgehog are a species of principal importance under Section 41 of the NERC Act and are listed Schedule 6 of the Wildlife and Countryside Act (1981) and also listed as vulnerable to extinction in the UK by the Red List for British Mammals.

The majority of the Site is hardstanding which is unsuitable for hedgehog. The soft landscaping at the far eastern end is suitable for foraging hedgehog, however, colonisation onto Site is considered unlikely as there are no gaps in the fence to enable hedgehog access. Overall, hedgehog is considered **likely absent**.

4.4 Baseline Conditions Overview

The Site is located within the zone of influence of the following designated sites Solent Maritime SAC and Solent and Southampton Water SPA.

The Majority of the Site comprised habitats of site value and can be scoped out for further assessment. The habitats requiring further assessment are: the mature oak trees assessed to be of local value.

The following protected species are considered likely absent from Site and are not considered further in this report: great crested newt, reptiles, badger and hedgehog.

The Site is of site value for the following protected species: plants, invertebrates, birds and bats.

No further surveys are deemed necessary, however, precautionary mitigation measures will be provided in Section 5 of this report to avoid the risk of a wildlife offence being committed for all except plants, invertebrates and birds.

5 Assessment of Effects and Mitigation/Compensation Measures

In accordance with CIEEM guidelines, where ecological features have been evaluated at “site value”, no further assessment is deemed necessary as the impact on these receptors is not likely to be of significance. However, mitigation measures may still be required to ensure compliance with current wildlife legislation and best practice guidelines.

The Site is approximately 0.13ha in size and is dominated by developed land, with a small total area of vegetated garden located on the far eastern end (0.0317ha) and two mature oaks. The design of the proposed development has followed the mitigation hierarchy, as firstly, impacts to biodiversity have been largely avoided by retaining the more valuable habitats on-site. Achieved by the mature oaks being retained and a maximum of 3m² of vegetated garden anticipated to be lost to facilitate the proposals. Secondly, adverse effects have been avoided or minimised through mitigation measures and lastly where there are significant or non-significant residual adverse ecological effects despite the mitigation proposed, these have been offset by appropriate compensatory measures.

The Site does not support priority habitat and is not positioned adjacent to priority habitat. The only habitat on-site considered to be greater than site value are the two mature oaks assessed to be of local value. No other habitats have been brought forward for assessment of effects and mitigation measures.

As stated in the first paragraph, further assessment of ecological receptors evaluated at “site value” is only required when deemed necessary to ensure compliance with legislation and best practice. On this basis, mitigation and compensation measures are not deemed necessary for the following protected/notable species: plants, invertebrates and nesting birds as well as the species considered likely absent: great crested newt, reptiles, badger and hedgehog.

Mitigation and assessment of residual effects is provided within this section for bats.

The proposals impact on biodiversity is considered within this report in Paragraph 7.1 ‘Biodiversity Value’, as although the proposals have avoided impacts to biodiversity, enhancements are required to adhere to NPPF and local policy.

No monitoring is proposed within this report as the proposals are exempt from the Environment Act 2021, as explained in Section 2.2.

5.1 Designated Sites

Potential Impacts

The Site is located approximately 5km from the Solent Maritime SAC and Southampton and Solent Water SPA. This is within the zone of influence for recreational impacts to be likely as a result of an increase in residential homes. The Site is not considered to be within proximity to the designations to directly impact via light or noise pollution.

Mitigation measures

Any development resulting in a net increase in dwellings within 5.6km of the Solent Maritime SAC and Southampton and Solent Water SPA designations needs to provide a financial contribution to mitigate for recreational impact. The 2017 Solent Recreation Mitigation Strategy provides a rough estimate on the financial contribution required; however, it is important to note that this is subject to review each tax year and this proposal is non-standard in that it is the replacement of a temporary dwelling to a

permanent dwelling and thus, financial contributions may vary as a result. Due to the nature of the proposals and distance from the designations, no further mitigation would be required.

Natural England's SSSI Impact Risk Zones (SSSI IRZs) identifies specific criteria that determine the potential for certain developments to impact SSSIs within a given area. The Site is within the River Itchen and Moorgreen Meadows SSSI IRZ which requires development with a total net gain of 100 or more residential units to consult Natural England. As the development will not result in an increase in 100 or more residential units, no further consultation is required.

Significance of Residual Effects

Provided that the mitigation measures are followed, the development will result in a **non-significant negative effect**. Compensation and enhancement measures are not deemed necessary.

5.2 Habitats

5.2.1 *Mature Trees*

Potential Impacts

The proposed bungalow has been positioned to avoid impacting the mature oaks. However, without appropriate mitigation measures, the construction phase risk damaging tree referenced T2 in the Existing Site Plan (Drawing No.: SD-2310-100-L).

Mitigation Measures

Root protection Areas (RPA) are to be established around the existing trees proposed for retention in line with BS5837:2012 through use of Heras fencing or similar.

Significance of Residual Effects

Provided that the mitigation measures are followed the proposals will have **no-effect** on the mature oaks. Compensation and enhancement measures are not deemed necessary due to the nature of the proposals.

5.3 Protected Species

5.3.1 *Bats*

Potential Impacts

The mature oaks and bungalow are assessed to be of low suitability and negligible to low suitability for roosting bats, respectively. The proposals will not result in their loss, however, new external lighting could impact the suitability of potential roosting features if not appropriately mitigated. Due to the nature of the proposals and the existing baseline, it is unlikely that lighting proposals would have a significant adverse effect on bats.

The mature oaks are also the only suitable foraging feature on-site for bats and direct lighting of these trees would impact their value to foraging bats.

Mitigation measures

Light pollution is detrimental to bats, as well as other wildlife and therefore, is to be avoided where feasible. Where lighting is required there are mitigation options for both external and internal luminaires to reduce luminance (brightness) and illuminance (light spill), as follows:

External lighting mitigation options:

- External lighting required from a security perspective: It is advised that alternative forms of security are considered prior to resorting to light deterrents. Alternative security options include motion cameras, which can be connected to a solar panel and thus, require no charging or connection to mains¹¹. Motion cameras act as a deterrent as they emit an alarm audible to the intruder and also send an alert to the landowner's mobile with live footage viewing and footage playback. However, if external lighting is preferred it must be motion sensed security lighting only. Security lighting specifications are also to include the prescriptions detailed below for leisure lighting.
- If external lighting is desired for leisure purposes they are to adhere to the following prescriptions:
 - Luminaires are to be directed away from ecological receptors such as the mature oaks and bungalow.
 - Avoid white light and warm colour recommended. Preferable colours are 3000°k to 2700°k (where feasible) with peak wavelengths greater than 550nm;
 - 0% upward light output and no tilting of the light head;
 - Change luminaire to one with more suitable luminous intensity distribution;
 - Use vegetation, fencing and walls as a light buffer. Climbers can also be planted on the fences and walls to provide a biodiversity enhancement;
 - Consideration height of light installation to reduce light spill;
 - As a last resort, the incorporation of shields, baffles and cowls fitted to the luminaires;
 - Avoid solar panel lighting in gardens. They are not controlled and turn on every night whether needed or not and are a cause of unnecessary light pollution which disrupts invertebrates.

Significance of Residual Effects

Provided that the mitigation measures are followed, the development will result in a **no effect**. Compensation measures are not deemed necessary due to the nature of the proposals, however enhancement measures for reptiles are provided in Section 7.2.

¹¹ Suitable security camera brand: eufy.

6 Compensation

The development is inherently of low ecological value and the proposals adhere to the mitigation strategy with impacts generally avoided. As a result, no compensation measures are deemed necessary. However, enhancement measures are proposed in Section 7.0 to ensure the proposals adhere to NPPF and local policy.

7 Enhancements

7.1 Habitats

Habitat enhancements that can be incorporated into the development include:

- The anticipated loss of 3m² of garden lawn is to be inherently compensated for via the creation of a vegetated garden which does not currently exist immediately behind the existing bungalow.
- New hedge planting with scattered trees is proposed along the majority of the Site boundaries, as shown in the Existing Site Plan (Drawing No.: SD-2310-100-L). Native shrubs that are suitable for enclosed developments are as follows: field maple *Acer campestre*, hazel *Corylus avellana*, holly *Ilex aquifolium*, rowan *Sorbus aucuparia*, box *Buxus sempervirens*, yew *Taxus baccata*, beech *Fagus sylvatica*, elm *Ulmus* sp., hawthorn *Crataegus monogyna*, wild cherry *Prunus avium*, bird cherry *P. padus*, crab apple *Malus sylvestris*, elder *Sorbus nigra*, dogwood *Cornus sanguinea*, spindle *Euonymus europaeus*, wild privet *Ligustrum vulgare*, wayfaring tree *V. lantana* and guelder rose *V. opulus*.
- Use peat free compost, compost and use rainwater to maintain new planting.
- Planting does not need to be native to benefit wildlife, however, some species are toxic to bees and should be avoided such as Rhododendrum spp. It is recommended that the landscaping plan provides all-year round food source for pollinators, as warmer winters are disturbing hibernating patterns of insects. The Royal Horticultural Society provide an expensive list of pollinator plants that flower by season (Royal Horticultural Society, 2019). Overall, the planting plan should include a mix of natives listed above and species that are identified and labelled as pollinator friendly only.

7.2 Protected Species

Protected species enhancements that can be incorporated into the development include:

- The installation of additional roosting bat features in the form of WoodStone (durable wood and concrete mix) bat box on the south elevation of the proposed bungalow, positioned as close to the eaves as possible.
- The new planting will provide new suitable nesting bird habitat in the long term. The installation of additional nesting bird features in the form of WoodStone (durable wood and concrete mix) bird box on the north elevation of the proposed bungalow will provide immediate new nesting opportunities. None of the buildings on-site are deemed to be of sufficient height to be suitable for swift box installation.
- The existing log pile is outside of the proposed construction area, however, if it remains at the time of the works it is recommended it is moved to the far eastern corner of the Site and created into a log pile for wildlife. Or a new log pile altogether can be created within the rear garden of the new bungalow to create suitable hibernacula for reptiles and habitat for saprophytic insects. The creation of a stag beetle log pile can be created by forming a log pyramid by digging logs that are at least the width of an adults arm approximately 50cm into the ground.
- It is recommended that each stretch of boundary fencing associated with the new rear gardens has a hole cut at the base to allow free movement of small mammals such as hedgehog. The hole should be a minimum of 5" sq. in size.

- Many invertebrates rely on fallen leaves for cover and butterflies and moths spend the winter as eggs, caterpillars, pupae, or adults amongst leaf litter. Therefore, instead of removing fallen leaves from Site it is recommended that they are piled within open wooden slat compost bins and/or use fallen leaves as mulch and rake to the base of the proposed hedging.

8 Conclusions

The Site is approximately 0.13ha in size and is dominated by developed land, with a small total area of vegetated garden located on the far eastern end (0.0317ha) and two mature oaks. No priority habitat is located on or adjacent to the Site. The mature oaks are the most notable habitats on-site, assessed to be of local value and are to be retained as part of the proposals.

The Site is located within the zone of influence of the following designated sites: Solent Maritime SAC and Solent and Southampton Water SPA, located 5km south. These designations have adopted a mitigation strategy whereby any development resulting in a net increase in dwellings within a 5.6km radius are within the identified zone of influence for recreational impacts. Therefore, mitigation has been provided in this report in the form of financial contributions, in accordance with the Solent mitigation strategy.

The proposals are exempt from the Environment Act 2021 and a quantifiable 10% net gain in biodiversity is not required as explained in Section 2.2. However, the development still needs to demonstrate net gain as part of the NPPF and local policy. Biodiversity enhancement will be inherently achieved within the design, as the proposals are not anticipated to result in the loss of more than 3m² of lawn and will result in a net reduction of hardstanding, as a vegetated garden will be created immediately behind the existing bungalow which is currently hardstanding. Furthermore, hedging is proposed around the majority of the boundaries which is currently only close board fencing.

The following protected species are considered likely absent from Site and are not considered further in this report: great crested newt, reptile, badger and hedgehog. The Site is assessed to be no greater than site value for plants, invertebrates, birds and bats and no further assessment is deemed necessary as the impact on these receptors is not likely to be of significance. However, avoidance and mitigation measures have been proposed for bats to ensure compliance with current wildlife legislation.

Compensation measures were not deemed necessary due to the existing baseline and proposals design. Enhancement measures to improve the existing designs value for wildlife have been provided in this report in accordance with NPPF and Local Planning Policy.

9 References

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10 Appendices

10.1 Photographs



Photograph 1: View of the front of Littledean bungalow.



Photograph 2: View of the front of the property with street visible on far right side.



Photograph 3: View of the hardstanding driveway leading up past the bungalow on its northern flank.



Photograph 4: View of the bungalow soffits which are in good condition and flush with the wall.



Photograph 5: View of the soffits at the front of the bungalow in good condition and flush with the wall. Circular hole is a vent.



Photograph 6: View of the north elevation of the bungalow and roof in very good condition.



Photograph 7: View of bungalow rear with roof in very good condition and surrounded by hardstanding.



Photograph 8: View of the flat roof extension with soffits in very good condition and flush with the wall and vents present in the corner.



Photograph 9: View of bungalow from rear garden, surrounded by hardstanding.



Photograph 10: View of hardstanding along the north elevation.



Photograph 11: View of summer house proposed for retention.



Photograph 12: Back of summer house absent of vegetation.



Photograph 13: View of mobile home and hardstanding in front.



Photograph 14: View of mobile home gable, which is absent of gaps, due to nature of its design.



Photograph 15: View of the rear of the mobile home with hardstanding only present.



Photograph 16: View of underneath of mobile homes, with no evidence of utilisation by small mammals.



Photograph 17: View looking west of the hardstanding that predominates on-site.



Photograph 18: View of the eastern end of the mobile home from the eastern end of the Site.



Photograph 19: View of the kennels which are located along the north boundary.



Photograph 20: View of log pile present on the lawn.



Photograph 21: View of lawn from the south-east corner



Photograph 22: View along southern boundary looking west from south-east corner and bare ground is present.



Photograph 23: View of the eastern boundary, with bare ground present.



Photograph 24: View of lawn and bare ground from the north-east corner.



Photograph 25: View of the north boundary from the north-east corner.



Photograph 26: Oak tree T1 located on the north-east corner of the Site.



Photograph 27: View of oak tree T2 located on the eastern end of the north boundary.



Photograph 28: View of both oak trees within the rear of the Site.



Photograph 29: View of the southern boundary and south-east corner of the Site.

Photograph 30: View of the fenced off patio immediately east of the mobile home.

10.2 UKHab Survey Plan

