LAND WEST OF ALLBROOK WAY, KNOWLE HILL, EASTLEIGH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Final Document (Revision 3)

December 2024

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EcIA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

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LAND WEST OF ALLBROOK WAY, KNOWLE HILL,

EASTLEIGH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Bargate Homes Ltd to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Land West of Allbrook Way, Eastleigh. The site comprises a grassland field bounded by mature hedgerows and trees. The proposals entail the redevelopment of the site to provide 49 residential units.The main findings of the Ecological Impact Assessment are:

- The River Itchen SAC has been identified within the Zone of Influence. An appropriate financial contribution and nitrate offset will be provided to address identified impacts;
- The habitats present are relatively common and widespread including lowland mixed deciduous woodland, modified grassland, bramble scrub and non-native hedgerow;
- The site provides habitat for roosting, foraging and commuting bats, badger, breeding birds, slow-worm, grass snake, great crested newt in their terrestrial phase, invertebrates, European hedgehog and common toad;
- The proposals have the potential to result in the net loss of habitats within the site. There is also the potential for harm to slow-worm, grass snake, great crested newt, European hedgehog and common toad;
- Mitigation proposed includes sensitive timings of clearance works, a European Protected Species Mitigation (EPSM) licence in respect of great crested newt and translocation of great crested newt, slow-worm and grass snake to an off-site receptor;
- The proposals include new habitat such as native thicket planting, grassland and native hedgerows. Dwellings will incorporate new bat roost features and bird nesting features;
- Given the impacts identified, and the mitigation, compensation and enhancement measures proposed it is considered that the proposals accord with all relevant local and national planning policy;
- If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

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1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Bargate Homes Ltd to undertake an Ecological Impact Assessment to support a Reserved Matters Application (Planning reference: O/19/86980) for the redevelopment of Land West of Allbrook Way, Knowle Hill, Eastleigh SO50 4LZ (hereafter referred to as the site).

Previously, Species Ecological Consultancy were contracted to carry out an Ecological Impact Assessment (Species Ecological Consultancy, 2020) to support the outline planning application. A number of protected species surveys were carried out in 2018 as part of the works including bat activity surveys, otter surveys, breeding bird surveys, hazel dormouse surveys, reptile surveys and great crested newt surveys. Given that the previous survey works our now out of date, further survey works are required. It was agreed with Eastleigh Borough Council on 24th April 2023 that only the hazel dormouse, reptile and great crested newt surveys would require updating. The remaining survey works did not require updating due to the lack of change to the site and therefore it was considered that the results would likely be the same.

1.2 The Site

The site is located in Eastleigh, Hampshire, centred on National Grid Reference (NGR) SU 4557 2136 (**Map 1**).

The site comprises a grassland field bounded by woodland to the north, west and of the site, with a central hedgerow, a tree line to the south and a line of scrub to the east.

The wider landscape to the north-west of the site comprises woodland and ponds, and to the south-west lies a residential area. A public footpath runs alongside the western side of the site, between the site and the adjacent woodland. The A335 (Allbrook Way) runs alongside the eastern boundary of the site, beyond which lies further grassland fields.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between 11th May 2023 and 8th November 2023. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or

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compensate for significant adverse effects[1] ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;
- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy[2];
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The proposals entail the redevelopment of the site to provide 49 residential units with associated landscaping, lighting and access.

The Ecological Impact Assessment is based on the proposals plan produced by Pegasus Group, dated 28th November 2024 (Drawing No. P23-0088_DE_004_E_01) (**Appendix 1**).

Full planning permission is being sought during 2024 with construction proposed to commence soon after permission has been granted.

[1] For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.
[2] In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

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2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Eastleigh Borough Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the most recent revised NPPF published in December 2024. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 182 goes on to state that "*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*".

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 187 states that the planning system should contribute to and enhance the natural 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...".*

A number of principles are set out in Paragraph 193, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats[3], including ancient woodland[4]. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in

[3] The NPPF defines irreplaceable habitats as "*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."*

[4] Natural England defines ancient woodland as "An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."

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place. Paragraph 180 also states "*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 also sets out that potential SPAs, SACs and listed or proposed Ramsar sites or sites acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states "*the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat*". Paragraph 99 states "*it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted*".

2.3 Local Policy

The Eastleigh Borough Local Plan 2016-2036 was adopted on 25th April 2022. It sets out the policies and plans to guide future development to 2036 and replaced the 'saved' policies in the Adopted Local Plan 2001-2011. A number of policies relate to ecology:

- **Policy S9: Green Infrastructure**

  In relation to ecology, this policy states that the council will seek to provide green stepping stones such as street trees, green roofs and walls, pocket parks and urban copses as well as connected habitats linking the network of designated sites and existing propriety habitats, taking account of the Hampshire ecological network map.

- **Policy DM10: Water and Waste Water**

  This policy states that where new water supply or waste water infrastructure is required or proposed, the development will be phased alongside the provision of infrastructure to ensure compliance with the Habitats Regulations; that there is no deterioration of the status of water bodies; and the avoidance or mitigation of any other adverse impacts.

- **Policy DM11: Nature Conservation**

  This policy states that developments should seek to protect, conserve and enhance international, national and local nature conservations designations

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and networks of natural habitats. A ‘project level’ Habitats Regulations Assessment will be required where there are likely significant effects on international or European nature conservation sites. In particular, reference is made to the Solent, the New Forest and the River Itchen designated sites. The policy also states that a net gain of biodiversity will be sought on all development sites.

Development will not be permitted if it is likely to have adverse effects on priority habitats, protected or priority species, or on the local ecological network, unless it can be demonstrated that there are no alternative solutions, there is an overall biodiversity net gain or the benefits clearly outweigh the adverse effects.

In relation to ecological survey work, the policy states that development will not be permitted unless it can be demonstrated that there have been thorough habitat and species surveys conducted; a great crested newt strategic survey and strategy have been considered in all developments within 500 metres of a great crested newt pond; and a strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat network.

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3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected[5]. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

3.4.1 Biological Records Centre

Hampshire Biodiversity Information Centre (HBIC) was consulted on 18th May 2023 for the following data:

- Records of non-statutory designated sites (Sites of Importance for Nature Conservation (SINCs)) within one kilometre of the site boundary. See **Appendix 2** for details;

[5] The Zone of Influence (ZoI), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2018).

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- Records of legally protected and notable species (flora and fauna) within one kilometre of the site boundary, including Species of Principal Importance (**Appendix 3**); and

- Records of bats within two kilometres of the site boundary. Bat species are highly mobile and therefore the search radius is increased for this species group.

3.4.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2024) was reviewed on 9th October 2024 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See **Appendix 2** for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. 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.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences have been granted were reviewed. This information allows a greater understanding of the potential for European Protected Species to be present in the local area.

3.4.3 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

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Information from a previous report by Species Ecological Consultancy (Species Ecological Consultancy, 2020) is referenced where relevant.

3.5 Field Survey

3.5.1 Survey Methods

The field survey followed UK Habitat Classification (UKHab) methodology (UKHab Ltd, 2023) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features. Habitats described in Section 4.0, have been mapped (**Map 2**) and photographs provided, where relevant.

The UKHab Survey Application, developed using the digital survey platform Coreo was used to map habitats in the field, collect the field survey data and photograph the site.

UKHab Survey

An assessment was made of all habitats within the site, which were classified based on the standardised UKHab survey methodology (UKHab Ltd, 2023). The UKHab classification system comprises two major parts, a hierarchical Primary Habitat system and a list of Secondary Codes. The classification of Primary Habitats is hierarchical with five levels:

Level 1: Major ecosystem, currently covering terrestrial, freshwater and coastal ecosystems.

Level 2: Nine ecosystem types, based upon the Mapping and Assessment of Ecosystems and their Services (MAES) typology and corresponding with major habitat types within the European Nature Information System (EUNIS) habitat classification.

Level 3: 20 broad habitat types, corresponding directly with UK Biodiversity Action Plan Broad Habitats and closely to EUNIS.

Level 4: 80 habitats, including 47 UK Biodiversity Action Plan Priority Habitats, and further splits of Level 3 habitats.

Level 5: 104 habitats, including 69 Habitats Directive Annex 1 habitats and further splits of Level 4 habitats.

It should be noted that not all habitats will be classified to Level 5, for example modified grassland is classified at Level 3 and no Level 4 or Level 5 habitat is

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applicable. In addition, where Level 4 or 5 habitats are considered to be present on site there may be a requirement for further surveys by a specialist botanist to confirm or classify these habitat types.

During the field survey notes and photographs were taken in order to evidence the surveyor's classification of each habitat type.

Any invasive species[6] encountered as an incidental result of the survey were recorded.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

The field survey was carried out by Hugh Turner, Principal Ecologist of ECOSA, and Kate Carroll, Field Ecologist of ECOSA on 26th June 2023. The weather conditions were dry with approximately 88% cloud cover, an ambient temperature of 21°C and a moderate breeze.

During the survey, the surveyor was equipped with 10x40 binoculars and a digital camera.

3.5.3 Field Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

3.6 Hazel Dormouse Survey

3.6.1 Survey Methods

The hazel dormouse survey was undertaken in line with current best practice guidelines (Bright, et al., 2006).

[6] Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

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The hazel dormouse survey involved the erection of 50 dormouse tubes within suitable dormouse habitat throughout the site at intervals of approximately ten metres. The locations of these tubes are marked on **Map 3**. The nest tubes were subsequently checked for evidence of dormouse on a monthly basis between June and November 2023.

In accordance with survey guidance, a value is assigned to each month, which is weighted depending on the likelihood of finding evidence of dormouse in a given month. These scores are based on the erection of 50 dormouse nest tubes. The values for each month that the tubes are in place are then added together. In accordance with survey guidance, absence of dormouse should not be assumed for a search effort of less than 20 points[7]. **Table 1** shows points assigned for each month during the survey undertaken.

Table 1: Hazel dormouse survey Index of Probability scores

Month	Index of Probability Score
June	2
July	2
August	5
September	7
October	2
November	2
Total	**20**

The level of survey effort carried out at site currently provides a search effort of 20, which allows a robust assessment of the likely absence of dormouse at the site to be undertaken.

3.6.2 Survey Details

The dormouse tubes were erected on 25th May 2023 with monthly visits undertaken between June and November 2023. **Table 2** provides details of each hazel dormouse survey.

[7] Each month, between April and November, inclusive is assigned an index of probability score, based on optimum survey timings.

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Table 2: Hazel dormouse survey details

Survey Date	Weather Conditions
26th June 2023	Dry, 21°C, 88% cloud cover and a moderate breeze
26th July 2023	Overcast, 18°C, 100% cloud cover and a moderate breeze
29th August 2023	Overcast, 18°C, 70% cloud cover and a light breeze
27th September 2023	Dry, 19°C, 20% cloud cover and a light breeze
8th November 2023	Overcast, 14°C, 100% cloud cover and a fresh breeze

The hazel dormouse surveys were co-ordinated and led by Hugh Turner, Principal Ecologist of ECOSA assisted by suitably qualified ECOSA surveyors.

The survey was undertaken using 50 dormouse tubes comprising corrugated plastic tubes of standard dimensions (Bright, et al., 2006) with plywood insert secured in the relevant habitat with heavy duty garden wire.

3.6.3 Survey Limitations

A hazel dormouse survey was not carried out in October, however as none of the tubes were disturbed or lost, it is considered that the November survey counted for both the October and November check.

3.7 Reptile Survey

3.7.1 Survey Methods

The reptile survey was undertaken in accordance with current best practice guidelines (Froglife, 2015).

The reptile survey consisted of the laying bitumen felt mats approximately 500 millimetres x 500 millimetres in areas of suitable habitat on the site. Typically, this included areas of suitable habitat with good exposure to the sun. The mats were distributed in all areas considered to offer suitable reptile habitat. The locations of these mats are marked on **Map 4**.

The use of such refugia is an effective way of surveying for all species of reptile and current survey guidance states that seven inspections are sufficient to confirm presence/likely absence. Survey visits were undertaken in marginal weather conditions such as cold but sunny weather or hazy and somewhat overcast conditions, as this will maximise the thermal value of the refugia for basking reptiles.

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During each visit surveyors also undertook a visual inspection survey of other suitable refugia in the site and other suitable basking locations. During the survey a note was also made of any suitable hibernation features present within the site.

3.7.2 Survey Details

A total of 60 reptile refugia were distributed on 2nd June 2023 with seven inspection visits undertaken between 20th June 2023 and 10th August 2023. **Table 3** provides details of each reptile survey.

Table 3: Reptile survey details

Survey Date	Air Temperature (°C)	Weather Conditions
20th June 2023	18	Overcast, 100% cloud cover and a light breeze
5th July 2023	16	Misty, 100% cloud cover and a light breeze
11th July 2023	19	Dry, 90% cloud cover and a light breeze
21st July 2023	18	Overcast, 80% cloud cover and a light breeze
26th July 2023	18	Dry, 80% cloud cover and a light breeze
1st August 2023	15	Overcast, 100% cloud cover and a light breeze
10th August 2023	20	Dry, 95% cloud cover and a light breeze

The reptile survey was coordinated by Hugh Turner, Principal Ecologist of ECOSA assisted by suitably experienced ECOSA surveyors.

3.7.3 Survey Limitations

There were no significant limitations to the reptile survey.

3.8 Great Crested Newt Survey

3.8.1 Survey Methods

Habitat Suitability Index (HSI) Assessment

Those ponds and waterbodies located within a 500 metre radius of the site (**Map 5**), where access permitted, were subject to a Habitat Suitability Index (HSI) assessment (Oldham, et al., 2000). HSI is a numerical index between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of great crested newt such as geographical location, water body size and permanence, presence of predatory fish and wildfowl, availability of suitable terrestrial habitat and proximity to other ponds. Each factor is scored based on its level of suitability for great crested newt. An HSI of 1 is optimal habitat (high probability of occurrence), while an HSI of 0

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is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single pond basis, but takes into account surrounding terrestrial habitat and local pond density. If a pond has a very low HSI score (<0.5) there would typically be a minimal chance of great crested newt presence.

This qualitative score can then be used, with caution, to indicate whether further detailed investigations are necessary or whether a particular waterbody can be 'scoped out' as unsuitable for great crested newts. However, professional judgement should be used rather than simply relying on the HSI to eliminate ponds from further assessment. Further detailed investigations would involve targeted surveys carried out between mid-March and mid-June to determine presence/absence of great crested newt and if present then an assessment of population status.

Environmental DNA (eDNA) Survey

The great crested newt environmental DNA (eDNA) sampling was undertaken following current best practice guidelines (Biggs, et al., 2014).

Given the presence of a number of waterbodies within 500 metres of the site boundary an environmental DNA (eDNA) analysis was undertaken to establish the presence / likely absence of great crested newt from within the ponds which were accessible (**Map 5**).

The field sampling entailed the collection of 20 samples of 30 millilitres of water from pre-selected sub-sampling sites around the margin of each waterbody. Sub-sampling sites are chosen to include areas where great crested newt are likely to be present such as areas of vegetation where they may be egg laying and areas of open water where they may be displaying. The 20 samples are then mixed into a single sterile bag from which six samples of water of 15ml are taken each of which is preserved in 35ml of ethanol. The samples are then refrigerated until analysis at the lab. The samples were sent to FERA eDNA testing service for analysis which were analysed in line with current guidance (Biggs, et al., 2014). The samples were taken within the required season (mid-April to June) when great crested newt eDNA is likely to be present within the pond and therefore, the analysis result indicates the presence or likely absence of the species from a given waterbody.

Presence/Absence Surveys

The great crested newt survey methods were undertaken in line with current best practice guidelines (English Nature, 2001). As eDNA surveys returned negative for the presence of great crested newt, only two surveys were carried out, however this is not considered a limitation as the likely absence of great crested newt was confirmed by the eDNA surveys

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The survey methods employed were torch searches, egg searches, sweep netting and bottle trapping.

The torch searches consisted of an investigation of the ponds after dark using a one million candlepower torch to search for adult great crested newt. All amphibians encountered were counted and sexed, where possible.

The egg search consisted of a methodical inspection of all suitable marginal vegetation for folded leaves that may indicate great crested newt egg laying activity. If great crested newt eggs were encountered during the survey this methodology was abandoned since exposure of eggs increases their risk of predation. This survey technique is only used to confirm presence and therefore, once presence has been confirmed other methods are utilised in order to determine population size class.

The sweep netting survey consisted of an investigation of each waterbody using a long-handled net. All newts encountered were counted and sexed, where possible. This survey technique is only used to confirm presence and therefore, once presence has been confirmed other methods are utilised in order to determine population size class.

The bottle trapping methodology involved submerging plastic bottle traps into the waterbodies at dusk. During the night newts swim into the traps and are unable to exit until released. The traps are then checked the following dawn and all newts are recorded and released, and the traps removed from the waterbodies. The traps were set at a density of one trap per two metres of waterbody margin where access was possible.

3.8.2 Survey Details

Habitat Suitability Index (HSI) Assessment

The great crested newt HSI assessment was carried out by Megan Woolley, Ecologist of ECOSA (Natural England Great Crested Newt Licence No. 2022-10782-CL08-GCN) on 11th May 2023. The weather conditions were dry with approximately 50% cloud cover, an ambient temperature of 16ºC and calm.

Environmental DNA (eDNA) Survey

The eDNA sampling on Ponds 1-6 was carried out by Megan Woolley, Assistant Ecologist of ECOSA (Natural England Great Crested Newt Licence No. 2022-10782-CL08-GCN) and Alina Karateke, Assistant Ecologist of ECOSA on 11th May 2023. The weather conditions were dry with approximately 50% cloud cover, an ambient temperature of 16ºC and calm.

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The eDNA sampling of Pond 7 was carried out by Hugh Turner, Principal Ecologist of ECOSA, and Kate Carroll, Field Ecologist of ECOSA on 26th June 2023. The weather conditions were dry with approximately 88% cloud cover, an ambient temperature of 21°C and a moderate breeze.

Presence/Absence Surveys

A total of eight survey visits were undertaken, between 17th May 2023 and 17th May 2024. **Table 4** provides details of each great crested newt survey.

Table 4: Great crested newt presence/absence and/or population size class assessment survey details

Survey Date	Survey Techniques	Waterbodies Surveyed	Air Temperature (°C)	Weather Conditions
17th May 2023	Bottle Trap, Torch, Egg, Sweep Net	Ponds 1 - 6	15°C	Dry, 90% cloud cover and calm.
8th June 2023	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	17°C	Dry and a light breeze.
10th April 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	10°C	Dry, no cloud cover and a light breeze.
17th April 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	14°C	Dry, 10% cloud cover and no breeze.
24rd April 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	10°C	Dry, no cloud cover and no breeze.
29th April 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	13°C	Dry, 50% cloud cover and no breeze.
8th May 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	15°C	Dry, 5% cloud cover and a light breeze.
17th May 2024	Bottle Trap, Torch, Egg, Sweep Net	Pond 7	16°C	Dry, 50% cloud cover and no breeze.

The great crested newt survey was coordinated by Hugh Turner, Principal Ecologist of ECOSA (Natural England Great Crested Newt Licence No. 2016-24123-CLS-CLS) assisted by suitably qualified and experienced ECOSA surveyors.

3.8.3 Survey Limitations

As Pond 7 was only discovered after the halfway point in May, it was not possible to carry out the full suite of presence/absence surveys or population assessment

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surveys in 2023. A further six surveys were therefore carried out between April 2024 and May 2024.

3.9 Criteria used to Assess Ecological Value

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2018) have also been used to inform the assessment.

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4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory and Non-statutory Designated Sites

4.2.1 Baseline Ecological Conditions

Details of designated sites are provided in the paragraphs below.

Statutory Designated Sites

There are two statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. These are:

- River Itchen (SAC) – Located 205 metres to the south-east and designated for supporting Annex I habitats (water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation), Annex II species (southern damselfly *Coenagrion mercurial* and bullhead *Cottus gobio*) and Annex II species that are not a primary reason for site selection (white-clawed crayfish *Austropotamobius pallipes*, brook lamprey *Lampetra planeri*, Atlantic salmon *Salmo salar* and otter *lutra lutra*).

- River Itchen (SSSI) – Located 205 metres to the south-east and designated for supporting chalk stream and river, fen meadow, flood pasture and swamp habitats. It is also designated for supporting notable invertebrate assemblages, breeding bird populations, aquatic species, otter and water vole.

Further details of the statutory designations listed above are provided in **Appendix 6**.

Non-Statutory Designated Sites

There are eighteen non-statutory designated sites of nature conservation interest situated within one kilometres of the site boundary. These are:

- Allbrook Clay Pit (SINC) – Located directly adjacent to the west of the site boundary, and designated for supporting notable wetland habitats.

- Lincolns Copse (SINC) – Located 45 metres to the north of the site, and designated for supporting notable woodland habitats.

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- Allbrook Hill Copse (SINC) – Located 110 metres to the south of the site, and designated for supporting notable woodland habitats.
- Ham Farm Meadow (SINC) – Located 215 metres to the south-east of the site, and designated for supporting notable grassland and wetland habitats.
- Park Lane Footpath Allbrook (SINC) – Located 285 metres to the north-east of the site, and designated for supporting notable woodland habitats.
- Pitmore Copse/Pitmore Gulley Copse (SINC) – Located 355 metres to the north of the site, and designated for supporting notable woodland habitats.
- Meadows at Allbrook (SINC) – Located 440 metres to the east of the site.
- Otterbourne Wood (SINC) – Located 445 metres to the north-east of the site, and designated for supporting notable woodland habitats.
- Pitmore Copse (West) (SINC) – Located 525 metres to the north-west of the site, and designated for supporting notable woodland habitats.
- Breach Farm Meadows (SINC) – Located 570 metres to the south-east of the site, and designated for supporting wetland habitats and one or more notable Hampshire species.
- Meadow between Railway & River Itchen (Winchester) (SINC) – Located 620 metres to the south-east of the site, and designated for supporting notable wetland habitats.
- Meadow between Railway & River Itchen (Eastleigh) (SINC) – Located 620 metres to the south-east of the site, and designated for supporting notable wetland habitats.
- Boyatt Wood – Bosville Extension (SINC) – Located 655 metres to the south-west of the site, and designated for supporting notable woodland habitats.
- Boyatt Wood (SINC) – Located 715 metres to the west of the site, and designated for supporting notable woodland habitats.
- Great Moorlands Copse Complex (SINC) – Located 845 metres to the north of the site, and designated for supporting notable woodland habitats.
- Otterbourne Hill Common (SINC) – Located 940 metres to the north of the site, and designated for supporting notable woodland and grassland habitats.

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- Breach & Gully Copses (SINC) – Located 960 metres to the south-east of the site, and designated for supporting notable woodland habitats.

- Boyatt Wood – Woodside Avenue Extension (SINC) – Located one kilometre to the south-west of the site, and designated for supporting notable woodland habitats.

Further information on sites designated for nature conservation are provided in **Appendix 2**.

4.2.2 Evaluation

The River Itchen SAC is of value at the European level, and the River Itchen SSSI is of value at the national level. The SINCs located within one kilometre of the site are of value at the county level.

4.3 Habitats

4.3.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with MAGIC produced records of notable lowland mixed deciduous woodland habitat adjacent to the west of the site.

Consultation with HBIC produced records of 44 notable plant species within the desktop study area, however none of these species was recorded on site.

Field Survey Results

Habitats within the site are shown on the Baseline Habitat Map (**Map 2**) and details of how each habitat has been classified based on the UKHab five-level hierarchical system, with relevant secondary codes, are provided in **Appendix 7**. Habitats are described in general terms using standard UKHab terminology. The main habitats recorded on site during the field survey were as follows:

Modified Grassland (g4)

The site is dominated by modified grassland. The site was previously grazed and supports a short grass sward, with areas of bare ground from trampling (**Figure 1** and **Figure 2**). The grass is dominated by perennial rye-grass *Lolium perenne*.

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Figure 1: Bare ground patches within grassland



Figure 2: Previously grazed grassland

Other Lowland Mixed Deciduous Woodland (w1f7)

Other lowland mixed deciduous woodland is present to the west of the site and along the boundary to the north and east of the site (**Figure 3**). The woodland comprises species including pedunculate oak *Quercus robur*, ash *Fraxinus excelsior* and hazel *Corylus avellana*. Part of the woodland is considered to be the Habitat of Principal Importance, lowland mixed deciduous woodland.



Figure 3: Woodland along edge of site

Line of Trees

A line of trees is present along the southern edge of the site (**Figure 4**). Some mature trees are present within this area and there are no obvious signs of management.

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Figure 4: Unmanaged line of trees along southern boundary

Bramble scrub (h3d)

A line of bramble *Rubus fruticosus* aggregate scrub is present along the eastern boundary of the site, running south from the woodland (**Figure 5**). The habitat is dominated by bramble.



Figure 5: Bramble scrub line along site boundary

Non-native and ornamental hedgerow (h2b)

A cherry laurel *Prunus laurocerasus* hedgerow is present in the centre of the site, separating the site from the adjacent residential property (**Figure 6**). The hedgerow is subject to occasional management and is approximately one and a half metres tall and one metre wide.

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Figure 6: Cherry laurel hedgerow bordering adjacent property

4.3.2 Evaluation

The grassland, bramble scrub and non-native hedgerow are of low ecological value, being common and widespread habitats present within the area, and the tree line and deciduous woodland are of greater value, supporting mature trees, while the deciduous woodland is a Habitat of Principal Importance. Therefore the grassland, scrub and non-native hedgerow are considered to be of site value only, while the line of trees and deciduous woodland are considered to be of local value.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced records of the following bat species within the desktop study area: barbastelle *Barbastella barbastellus*, serotine *Eptesicus serotinus*, *Myotis* bat species[8], Daubenton's bat *Myotis daubentonii*, whiskered/Brandt's bat *Myotis mystacinus/brandtii*[9], Natterer's bat *Myotis nattereri*, Leisler's *Nyctalus leisleri*, noctule *Nyctalus noctule*, pipistrelle species *Pipistrellus*[10], common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, long-eared bat *Plecotus* species[11] and brown long-eared bat *Plecotus auratus*. Of

[8] There are seven species of *Myotis* bats in Britain. Myotis bats are very difficult to identify specifically, this can generally only be done by examination of physical features and Phylogenetic Analysis Identification of bat droppings. Many of these bats are common and will utilise buildings for roosting often occupying small and inaccessible voids. For the purpose of this report all species shall be referred to as Myotis bats unless a specific identification has been possible.

[9] Whiskered bat and Brandt's bat cannot be distinguished from each other unless they are examined in the hand. It is widely acceptable to use the category whiskered/Brandt's bat.

[10] There are three species of pipistrelle bat, the common pipistrelle *Pipistrellus pipistrellus*, the soprano pipistrelle *Pipistrellus pygmaeus* and the Nathusius' pipistrelle *Pipistrellus nathusii*. The species can be separated by their echolocations, examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the three species shall be referred to in this report as pipistrelle bat. All three species will roost in similar locations within buildings. The soprano pipistrelle has a tendency to form larger roosts numbering 100's of bats and is associated with wetland habitat. Nathusius' pipistrelle bats frequently share maternity roosts with soprano pipistrelle bats.

[11] There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual

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these records, HBIC produced records on 44 roosts for serotine, Daubenton's bat, Whiskered bat, pipistrelle species, common pipistrelle, soprano pipistrelle and brown long-eared bat. The most recent roost was a common pipistrelle resting roost recorded in 2021, located approximately 1.2 kilometres from the site. The closest roost to the site was that of brown long-eared bat breeding roost, located approximately 185 metres to the north-east of the site.

Consultation with MAGIC produced records of 14 granted EPSM licences with regards to bat within the desktop study area. These licences affect resting places for common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle, brown long-eared and serotine. These licences also affect the breeding sites for common pipistrelle, soprano pipistrelle, Nathusius' pipistrelle and brown long-eared bats. The most recent licence was granted in 2012 and the nearest record is located approximately 375 metres to the north of the site.

During the previous bat surveys carried out by Species Ecological Consultancy (Species Ecological Consultancy, 2020), a total of nine bat species were recorded foraging and commuting on site including common pipistrelle, soprano pipistrelle, serotine, noctule, long-eared bat *Plecotus* species, barbastelle, Natterer's bat, Daubenton's bat and whiskered/Brandt's bat.

Field Survey Results

Tree Assessment

A full assessment of the trees on site to support roosting bats was not carried out, as no trees are currently proposed for removal, however it is considered likely that the mature trees within the woodland and line of trees habitats likely support potential bat roosting features. Therefore the site is assessed as having suitability for roosting bats.

Foraging and Commuting Habitat

The woodland, bramble scrub and line of trees habitats around the boundary of the site provide good opportunities for foraging and commuting bats and provide connectivity to offsite habitats such as the adjacent woodland. While it is considered likely that bats will forage over the grassland of the site, the opportunities are limited due ot the management of the grassland reducing the presence of wildflowers that

identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

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would attract food source invertebrates. Overall the site is assessed as being of moderate suitability to support foraging and commuting bats.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced 13 records of otter *Lutra lutra*, the most recent recorded in 2011 within the River Itchen approximately 930 metres to the south-east of the site.

Consultation with MAGIC produced no records of granted EPSM licences with regards to otter within the desktop study area.

Previous surveys carried out by Species Ecological Consultancy recorded no evidence of otter on-site or within the adjacent woodland habitats (Species Ecological Consultancy, 2020).

Field Survey Results

The woodland habitats provide some opportunities for otter to create holts and the off-site waterbodies within the adjacent woodland provide foraging opportunities for otter. However the waterbodies are isolated from the nearby River Itchen by residential development and heavily trafficked roads. Previous surveys recorded otter as being likely absent from the site (Species Ecological Consultancy, 2020) and therefore the species is not considered any further in this report.

4.6 Badger

4.6.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced two records of badger *Meles meles* within the desktop study area, recorded in 2019 and 2020.

Previous survey works carried out by Species Ecological Consultancy recorded no evidence of badger on site (Species Ecological Consultancy, 2020).

Field Survey Results

No evidence of badger was recorded on site during the survey works. The woodland habitats on site provide good sett building opporutnties for colonising badger and the site has good connectivity to off-site habitat via the adjacent woodland habitats, while the grassland habitats on site provide good foraging opportunities. Overall the site is considered to be suitable for badger.

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4.6.2 Evaluation

The habitats on site offer foraging and sett building opportunities in an area that is mostly dominated by residential development. Therefore the site is assessed as being of local value for badger.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced one record of hazel dormouse *Muscardinus avellanarius* within the desktop study area.

Consultation with MAGIC produced no records of granted EPSM licences in regards to hazel dormouse within the desktop study area.

Previous survey work carried out by Species Ecological Consultancy recorded no evidence of hazel dormouse on site (Species Ecological Consultancy, 2020).

Field Survey Results

The woodland, bramble scrub and line of trees habitats on site provide good opportunities for hazel dormouse and are well connected to off-site woodland habitats immediately adjacent to the site. Therefore the site is assessed as having suitability to support hazel dormouse.

Hazel Dormouse Survey Results

The hazel dormouse survey confirmed the likely absence of hazel dormouse within the site, as no individuals or nests were recorded during the survey, therefore this species is not considered any further in this report.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced 106 records of water vole *Arvicola amphibius* within the desktop study area. The most recent record was in 2020, and the closest record was 110 metres to the east of the site.

Field Survey Results

The site does not support any suitable riparian habitats and therefore does not provide foraging or burrowing opportunities for water vole. Therefore the site is considered unsuitable for water vole and the species is not considered any further in this report.

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4.9 Birds

4.9.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced 70 notable and protected bird species within the desktop study area. Of these species, there are 32 red-listed[12] species, 16 amber-listed[13] species, and 19 Schedule 1[14] species. Of these, it is considered possible that species that nest in woodland habitats could occur on site, such as cuckoo *Cuculus canorus*, lesser spotted woodpecker *Dendrocopos minor* and woodcock *Scolopax rusticola*.

Field Survey Results

During the initial survey a number of bird species were recorded on site or flying over including chiffchaff *Phylloscopus collybita*, treecreeper *Certhia Familiaris* and jackdaw *Corvus Monedula*. The woodland, bramble scrub, hedgerow and line of trees habitats provide good nesting opportunities for birds. The grassland habitats on site are heavily grazed and do not provide opportunities for ground nesting birds or significant assemblages of wintering birds.

4.9.2 Evaluation

The habitats on site represent a small portion of the habitats available in the wider area, with the woodland habitats on site making up part of a larger woodland block. Therefore the site is assessed as being of site value only for breeding birds.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC produced records of three species of reptiles within the desktop study area including slow worm *Anguis fragilis*, grass snake *Natrix natrix* and

[12] The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

[13] The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with spcies needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.

[14] Birds listed on Schedule 1 of the Wildlife and Countryside Act (1981 as amended) are afforded additional protection making it an offence to: Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or; Intentionally or recklessly disturb the dependent young of any such bird.

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common lizard *Zootoca vivipara*. The nearest record for slow worm is located approximately 185 metres to the north of the site and was recorded in 2014.

Consultation with MAGIC returned no records of granted EPSM licences in regards to reptiles within the desktop study area.

Previous reptile survyes carried out by Species Ecological Consultancy recorded low populations of slow-worm and grass snake on site (Species Ecological Consultancy, 2020).

Field Survey Results

While the majority of the grassland supports a grazed, short sward, there are opportunities present for reptiles at the edges where the grass is more tussocky and where the habitats border woodland and scrub, which provide sheltering and hibernation opportunities for reptiles. Therefore the site is assessed as being suitable for reptiles.

Reptile Survey Results

A summary of the reptile surveys at the site is provided in **Table 5** and on **Map 4**. A peak count of seven adult slow-worm, two juvenile slow-worm, two adult grass snakes and one juvenile grass snake were recorded on site during the surveys undertaken.

Table 5: Summary of reptile survey results

Survey Date	Number of Individuals Recorded			
	Slow-worm		Grass Snake	
	Adult	Juvenile	Adult	Juvenile
20th June 2023	2	1	0	0
5th July 2023	3	1	0	1
11th July 2023	4	0	1	0
21st July 2023	6	0	0	1
26th July 2023	7	1	0	0
1st August 2023	3	1	2	0
10th August 2023	4	2	0	0
Peak Count	**7**	**2**	**2**	**1**

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4.10.2 Evaluation

Population Class Size Assessment

Table 6 shows the current guidance (Froglife, 1999) for assessing the population size of reptiles based on a refugia density of 10 per hectare. A density of 23 refugia per hectare was used on site which was the density used at the site and the population size assessment has been adjusted accordingly.

Table 6: Criteria for population size assessment based upon a refugia density of 10 per hectare

Species	Low Population	Good Population	Exceptional Population
Slow-worm	<12	12-46	>46
Grass snake	<12	12-23	>23

Given the peak count of seven adult slow-worm, the site can be said to support a low population of slow-worm. Given the peak count of two adult grass snake, the site can be said to support a low population of grass snake.

Evaluation

Slow-worm is a common and widespread species across the UK. Slow-worm are likely to be the most frequently encountered reptile as they are often found in gardens, leading to the widespread distribution of records across the county. A low population of slow-worm is therefore considered to be of value at the site level. The site also supports a low population of grass snake, which are also common and widespread throughout Hampshire and is therefore considered to be of value at the site level.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

Consultation of OS mapping and aerial photography revealed the presence of nine waterbodies within 500 metres of the site, including seven ponds and the River Itchen. The closest pond is 60 metres to the west of the site. Whilst the River Itchen is approximately 205 metres from the site, it is considered unsuitable for great crested newt to travel to the site due to the busy B3335 road inbetween the River Itchen and the site.

Previous survey works carried out by Species Ecological Consultancy recorded the presence of great crested newt within ponds to the west of the site (Species Ecological Consultancy, 2020). Results from eDNA testing recorded the presence of

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great crested newt within three of the ponds, however further population assessment surveys only recorded great crested newt in one pond, with a peak count of four great crested newts.

Field Survey Results

There are no waterbodies on site and therefore no breeding opportunities for great crested newt on site. The woodland habitats provide excellent sheltering and foraging opportunities for great crested newt in their terrestrial phase and the site is well-connected to known breeding ponds via adjacent woodland. Therefore the site is assessed as having suitability to support great crested newt.

Great Crested Newt HSI Assessment Results

The results of the HSI surveys returned results of Pond 1 being of 'good' suitability for great crested newt, Ponds 2 and 5 being of 'average' suitability, Ponds 6 and 7 being of 'below average' suitability and Ponds 3 and 4 being of 'poor' suitability (see **Table 7**)

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Table 7: Ponds within 500 metres of Site Boundary - Details

Pond No.	NGR	Location in Relation to Site Boundary	HSI Score	HSI Suitability	Waterbody Description	Access Possible	Further Survey
1	SU 45429 21513	70 metres west	0.72	Good	Large woodland pond	Yes	eDNA and Presence/Absence Assessment
2	SU 45448 21462	60 metres west	0.61	Average	Medium sized woodland pond	Yes	eDNA and Presence/Absence Assessment
3	SU 45346 21485	145 metres west	0.48	Poor	Small woodland pond	Yes	eDNA and Presence/Absence Assessment
4	SU 45340 21491	150 metres west	0.36	Poor	Lake within woodland	Yes	eDNA and Presence/Absence Assessment
5	SU 45269 21343	245 metres west	0.66	Average	Medium sized woodland pond	Yes	eDNA and Presence/Absence Assessment
6	SU 45406 21492	100 metres west	0.54	Below Average	Small woodland pond	Yes	eDNA and Presence/Absence Assessment
7	SU 45401 21384	75 metres west	0.52	Below Average	Small woodland pond	Yes	eDNA and Presence/Absence Assessment

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Great Crested Newt eDNA Survey Results

The Great Crested Newt eDNA survey produced positive results for the presence of great crested newt within Pond 7, but negative results for the presence of great crested newts within Ponds 1 to 6.

Great Crested Newt Presence/Absence Survey Results

The Great Crested Newt presence/absence surveys confirmed the presence of the species within Pond 7 with a peak count of 9 individuals recorded, along with the presence of great crested newt eggs. Populations of smooth newt *Lissotriton vulgaris* and palmate newt *Lissotriton helveticus* were also recorded within Pond 7. No great crested newts were recorded within Ponds 1 to 6.

A summary of the great crested newt presence/absence survey results from Pond 7 is provided in **Table 8** and on **Map 5.**

Table 8: Summary of great crested newt presence/absence survey results

Survey Date	Number of Individuals Recorded			
	Great crested newt	Smooth Newt	Palmate Newt	Common Newt
8th June 2023	-	-	-	-
10th April 2024	7	-	1	31
17th April 2024	-	4	3	4
24rd April 2024	1	-	-	5
29th April 2024	9 and Eggs	5	5	15 and Eggs
8th May 2024	-	2	1	8
17th May 2024	6	1	5	3
Peak Count	**9**	**5**	**5**	**31**

4.11.2 Evaluation

Population Class Size Assessment

It is difficult to establish the true size of a population of great crested newt, due to variations in sampling efficiency and the complex population dynamics involved. Hence, population estimation methods can only give an indication of whether the population is small, medium or large in terms of the number of newts present in the breeding pond.

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In accordance with Natural England guidance (English Nature, 2001) survey results should be expressed as peak adult counts per pond per night gained through field survey methods, and a total site count, if appropriate.

Populations can then be classed as:

- 'small' for maximum counts up to 10;
- 'medium' for maximum counts between 11 and 100; or
- 'large' for maximum counts over 100.

Evaluation

Based on guidance by Natural England the site is assessed as supporting a small population of great crested newt. The woodland habitats on site are well connected to the off-site woodlands which support the breeding ponds and are therefore likely an important resource for the local population in the woods. Therefore the site is assessed as being of local value to support great crested newt.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with HBIC returned records of 214 notable species of invertebrates within the desktop study area. Some of these species include woodland specialists as well as saprophytic species such as stag beetle *Lucanus cervus* and it is possible these species could occur within the woodland habitats on site.

Field Survey Results

The woodland habitats provide opportunities for notable woodland invertebrate species and the presence of deadwood within the woodland would make it suitable for saprophytic species such as stag beetle. The grassland, bramble scrub, line of trees and non-native hedgerows on site are likely to support a range of common and widespread invertebrate species but is less suitable for notable species. Overall, the site is assessed as having suitability to support invertebrates.

4.12.2 Evaluation

The habitats on site respresent a small proportion of the habitats available to invertebrates in the local area. Therefore the site is assessed as being of site value for invertebrates.

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4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Consultation with HBIC returned 49 records of European hedgehog *Erinaceus europaeus*, five records of common toad *Bufo bufo* and two records of harvest mouse *Micromys minutus*.

Field Survey Results

The woodland habitats provide opportunities for European hedgehog and common toad while being well connected to off-site habitats via adjacent woodland which include potential breeding habitats for common toad. The habitat on site is unsuitable for harvest mouse due to the grassland supporting a short grass sward and therefore this species is not considered further in this report.

4.13.2 Evaluation

The habitats on site represent a small percentage of habitats available to European hedgehog and common toad in the wider area, therefore the site is assessed as being of site value only for these species.

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5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy[15] with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 174 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails the construction of 49 residential units with associated infrastructure and landscaping. Access will be created from Knowle Hill to the south of the site. Full lighting proposals were not available at the time of preparing this report but it is assumed that new external lighting will form part of the proposals. New ponds and sustainable drainage systems (SuDS) will be created as part of the landscaping proposals.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

The proposals will result in a net increase in residential units, which will in turn lead to an increase of nitrogen discharge in the River Itchen designated sites. There are no anticipated impacts to designated sites during construction. The site also lies within the 5.6 kilometre development buffer of the Solent SPAs. Therefore there will be an increase in recreational pressure as a result of the net gain in residents as a result of the proposals.

[15] In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

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5.3.2 Mitigation Measures

A Nutrient Neutrality Assessment will be carried out to determine the increase in nitrogen discharge will be from the proposals. Credits will be purchased from Eastleigh Borough Council to offset the increase into the River Itchen designated sites.

Financial contributions will be required to offset the impacts of the increase in recreational pressure on the Solent SPAs. The simplest way to mitigate the impact of this is through financial contribution to the Solent Disturbance Mitigation Project (SDMP). A sliding scale of contribution is based on the property size and as of 1st April 2023 is as follows:

- *£443 for each 1 bedroom property*
- *£639 for each 2 bedroom property*
- *834 for each 3 bedroom property*
- *£980 for each 4 bedroom property*
- *£1,150 for each 5 bedroom property*

5.3.3 Significance of Residual Effects

Following mitigation, there will be no residual effects on designated sites.

5.3.4 Compensation

No compensation measures are proposed with regards to designated sites.

5.3.5 Enhancement

No enhancement measures are proposed with regards to designated sites.

5.4 Habitats

5.4.1 Potential Impacts and Effects

The proposals will result in the loss of approximately 2.63 hectares of modified grassland habitats on site. The woodland, bramble scrub, line of trees and non-native hedgerows will be retained as part of the proposals. Retained habitats may be damaged through accidental contact with heavy machinery.

5.4.2 Mitigation Measures

Any retained trees will be protected during the construction period with Root Protection Zones established in accordance with BS 5837:2012 (British Standards, 2012). A suitable buffer will be established between retained habitats and construction works.

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5.4.3 Significance of Residual Effects

Following mitigation, there will still be a loss of habitats on site. As the habitats to be lost are common and widespread and are low distinctiveness, it is considered that the loss is only at the site level.

5.4.4 Compensation

The proposals include new grassland sowing, scattered tree planting and the creation of new ponds to the south of the site. A Biodiversity Metric Assessment will be carried out to the determine the change in biodiversity on site post-development

5.4.5 Enhancement

There are no enhancement measures proposed with regards to habitats.

5.5 Bats

5.5.1 Potential Impacts and Effects

New lighting installed along new roads and porches may disturb foraging and commuting bats along the site boundaries. There will be no significant long-term loss of foraging and commuting habitat and no potential for habitat fragmentation.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.5.2 Mitigation Measures

New external lighting will comprise hooded luminaires mounted horizontally with no light output above 90° and directed away from vegetation, particularly the boundary woodland and waterbody habitats where possible. Light spill from porches facing the woodland boundaries will be minimised through the installation of Passive Infrared Sensor lighting.

Ideally the bulbs should be LED and be a warm light source (2700 Kelvin or lower). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife. The new lighting should be task related and lux level should be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels and mitigation options as described within the Bats and Artificial Lighting in the UK report will be followed (Institution of Lighting Professionals, Bat Conservation Trust, 2023).

5.5.3 Significance of Residual Effects

Following mitigation there are no anticipated residual effects on bats.

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5.5.4 Compensation

No compensation measures are proposed with regards to bats.

5.5.5 Enhancement

As a measure of enhancement, Vivara Pro Build-in Woodstone Bat Tubes (or similar) will be installed in at least 20% of new residential units, although Bargate Homes has an exisitng policy of installing at least one ecological enhancement feature (bat box, bird box, bee brick etc.) in every new residential dwelling. The bat tubes will be installed as high as possible but at a minimum height of three metres on the eastern and southern elevations.

5.6 Badger

5.6.1 Potential Impacts and Effects

The proposals may cause disturbance to badger within setts if this species colonises the site prior to works commencing. The proposals will also result in the loss of badger foraging and commuting habitats.

Badger are protected from killing and injury, and their setts protected from damage and interference, under the Protection of Badgers Act 1992. Refer to **Appendix 3** for details.

5.6.2 Mitigation Measures

An updating badger survey will be carried out approximately three months prior to construction works starting to determine if setts have been created on site. If any setts are identified in or within 30 metres of the construction zone and cannot be retained within the proposals, then these would need to be closed under a Natural England licence. If a main sett is identified within the construction zone, a suitable alternative will need to be created and it's use demonstrated prior to the main sett being closed.

5.6.3 Significance of Residual Effects

Following mitigation, there will be a loss of foraging and commuting habitats for badger. This is considered to be significant at the site level only.

5.6.4 Compensation

The new habitat planting proposed in Paragraph 5.4.4 will replace lost foraging habitats for badger.

5.6.5 Enhancement

No enhancement measures are proposed with regards to badger.

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5.7 Birds

5.7.1 Potential Impacts and Effects

The proposals will not result in a loss of nesting habitats for breeding birds. Therefore there are no anticipated impacts with regards to breeding birds as a result of the proposals.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

5.7.2 Mitigation Measures

As there are no anticipated impacts on breeding birds there are no mitigation measures are proposed.

5.7.3 Significance of Residual Effects

There are no residual effects anticipated on breeding birds.

5.7.4 Compensation

No compensation measures are proposed with regards to breeding birds.

5.7.5 Enhancement

As a measure of enhancement, bird boxes will be incorporated in every Bargate home in line with the company's policy, although the company policy does extend to say that at least one ecological feature (bat box, bird box, bee brick etc.) in every new residential dwelling. The type of bird boxes to be installed will include a mixture of Vivara Pro Woodstone Sparrow nest boxes, Woodstone Build-in Swift nest boxes and Woodstone Build-in Open Hole nest boxes or similar alternatives. The bird boxes will be installed as high as possible to prevent interference. Swift boxes will be installed in pairs on the eastern or northern elevations. Putting boxes on southern elevations should be avoided to prevent overheating of chicks in hot weather.

5.8 Reptiles

5.8.1 Potential Impacts and Effects

The proposals will result in loss of approximately 2.63 hectares of grassland, including suitable reptile habitat, during the construction phase within the site. The suitable reptile habitats are restricted to the margins of the site.

Construction activities on areas of reptile habitat have the potential to result in direct harm to the population of slow-worm and grass snake recorded at the site.

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Widespread reptile species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm. Refer to **Appendix 3** for details.

5.8.2 Mitigation Measures

Given the presence of low populations of slow-worm and grass snake within the site it will be necessary to ensure that these animals are not harmed during the necessary ground clearance works prior to development and that animals are not present within the development area during construction works. It is proposed that a translocation exercise will be undertaken in order to safeguard the population during the construction works.

Prior to the commencement of the works semi-permanent exclusion fencing will be erected around the perimeter of the construction area in order to ensure that reptiles do not enter the construction area during works. The retained area of woodland to the west of the site, would serve as the receptor site for any reptiles captured as part of the translocation exercise.

Following the installation of the exclusion fencing, reptile capture and removal will be undertaken by a suitably qualified ecologist between April and October (weather dependent) when reptiles are not in hibernation. A high density of refugia will be distributed throughout areas of suitable habitat and inspected on a daily basis in suitable weather conditions until five ‘clear’ visits have been achieved. It is envisaged that the translocation exercise will take a minimum of 30 days. All captured animals will be placed in a secure container and transported to the receptor site at the end of each visit capture.

Following the completion of the capture exercise, a destructive search will be undertaken of the on-site habitat under supervision of a suitably qualified ecologist. This will entail the methodical removal of any suitable habitat within the site. Any additional reptiles encountered as part of the destructive search will be captured by the ecologist and relocated to the receptor area. Once the destructive search has been completed, and all suitable reptile habitat has been removed from the site, the development work will be able to proceed.

Following the completion of the development, the reptile fencing will be removed under the supervision of a suitably qualified ecologist. This will be undertaken either upon completion of the entire development or on a phased work basis as the development is completed.

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5.8.3 Significance of Residual Effects

The proposed translocation will avoid harm to reptiles, however, the loss of suitable reptile habitat cannot be mitigated. AS the habitats support only low populations of reptiles, this is considered to be significant at the site level only.

5.8.4 Compensation

The grassland and pond creation to the south of the site will provide new reptile habitats on site. Once the construction phase has been completed the reptile exclusion fencing will be removed to allow the translocated population to recolonise the site.

5.8.5 Enhancement

It is proposed that three hibernacula will be constructed within the receptor site. The hibernacula will be constructed from logs and stones and will be dug slightly into the ground, with the resultant turf placed over the top of the hibernacula to provide cover.

5.9 Great Crested Newt

5.9.1 Potential Impacts and Effects

The proposals have the potential to result in the killing and injuring of great crested newt during site clearance and the loss of suitable terrestrial habitat in the form of the loss of the grassland field margins.

In England, great crested newt and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.9.2 Mitigation Measures

As a result of the loss of great crested newt terrestrial habitat at the site, a European Protected Species Mitigation (EPSM) licence will be required prior to the development works commencing. This can only be applied for once planning permission is in place with any relevant wildlife conditions discharged.

The EPSM licence application will require the preparation of a clear and reasoned Method Statement which details the methods for maintaining the conservation status of the species at the site.

A translocation exercise will need to be undertaken in tandem with the reptile translocation exercise detailed in Paragraph 5.8.2. Exclusion fencing will be installed around the boundary of the site. This will prevent movement of great crested newt into the development area following the translocation of animals. This fence will be maintained in good condition throughout the development. Internal drift fencing to aid

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the capture of animals will also be installed which will be removed prior to the commencement of the development.

The area enclosed by the exclusion fencing will then be subject to trapping and translocation of newts. This will be carried out by installing pitfall traps at 10 metre intervals along the full length of the exclusion fencing and the drift fence. Great crested newt fall into these traps and this is an effective method of capturing and removing them. Additionally, refuge traps (carpet tiles or similar) will be placed across the site in between the installed pitfall traps.

Once installed, the pitfall traps will require inspection every morning shortly after sunrise in order to remove animals from the traps. Any great crested newt captured will then be relocated beyond the exclusion fence to the receptor site located within the retained woodland to the west of the site.

Trapping and translocation must be undertaken during suitable weather conditions between March and October. According to the current guidance (English Nature, 2001), trapping should be undertaken for a minimum of 30 days where a low population of great crested newt is found to be present. The translocation exercise will be deemed complete once five clear days no capture has been achieved.

Following the completion of the translocation, a destructive search will be undertaken of the translocation area. This will entail the methodical removal of any suitable habitat using an excavator under ecological supervision. Any additional great crested newt encountered as part of the destructive search will be captured by the ecologist and relocated to the receptor area. Once the destructive search has been completed, and all suitable great crested newt habitat has been removed from the site, the development work will be able to proceed.

5.9.3 Significance of Residual Effects

Following the implementation of the mitigation measures outlined about there will still be a loss in great crested newt habitat which is considered to be significant at the site level. This is considered to be significant at the site level.

5.9.4 Compensation

The proposals will deliver new pond and grassland habitats to the south of the site. This will create new breeding opportunities on site for great crested newt.

5.9.5 Enhancement

As a measure of enhancement, the proposed hibernaculas to be constructed in the woodland, will provide additional sheltering opportunities for great crested newt.

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These will be constructed in line with the specification included in the great crested newt mitigation guidelines (English Nature, 2001).

5.10 Invertebrates

5.10.1 Potential Impacts and Effects

The woodland habitats will be retained on site, therefore there are no anticipated impacts on notable invertebrate species.

5.10.2 Mitigation Measures

No mitigation measures are proposed with regards to invertebrates.

5.10.3 Significance of Residual Effects

There will be no residual effects on invertebrates as a result of the proposals.

5.10.4 Compensation

No compensation measures are proposed with regards to invertebrates.

5.10.5 Enhancement

The proposed pond creation will create opportunities for aquatic invertebrates on site. In addition, bee bricks will be incorporated into a number of new residential dwellings on site.

5.11 Other Relevant Species

5.11.1 Potential Impacts and Effects

Site clearance works have the potential to result in direct harm to both European hedgehog and common toad. The proposals will also result in the loss of suitable habitats for European hedgehog and common toad.

The installation of residential fencing at the site also has the potential to result in fragmentation of habitat for European hedgehog and other small mammal species.

5.11.2 Mitigation Measures

The sensitive clearance measures associated with reptile and great crested newt (see Paragraphs 5.8.2 and 5.9.2) will ensure that both European hedgehog and common toad, amongst a wide range of other species, are protected as site clearance works progress. If indivduals are encountered during clearance works they will be moved to the receptor site.

In order to ensure continued permeability of the site for European hedgehog and other small mammal species, holes of 130 millimetres x 130 millimetres will be installed in new close board fencing. The gaps will be labelled as ‘hedgehog highways’ to inform new homeowners of the purpose of the holes. These holes will

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only be installed within fences where there are no level differences between gardens, due to the sloping nature of the site making it unsuitable to have holes in every fence.

5.11.3 Significance of Residual Effects

Following the implementation of mitigation measures no significant residual effects on any other relevant species are anticipated.

5.11.4 Compensation

No specific compensation for other relevant species is proposed.

5.11.5 Enhancement

The delivery of the enhancement measures set out in Paragraph 5.4.5 will provide an enhancement over the baseline situation including the delivery of new ponds which would provide a specific enhancement for common toad and other amphibians.

As an enhancement measure for European hedgehog, two hedgehog domes will be installed within public open spaces on site, one to the north of the site and one to the south. The hedgehog domes should be sited partially under cover to avoid being disturbed by residents.

5.12 Cumulative Effects

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

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6.0 CONCLUSIONS

6.1 Conclusion

The site is located within the River Itchen development buffer and supports roosting, foraging and commuting bats, low populations of slow-worm and grass snake and a small population of great crested newt. Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed. Post-development, no residual or cumulative impacts are anticipated. The site will be enhanced for bats through the installation of an additional bat roosting features, for birds through the installation of nesting features, for reptiles through the creation of hibernacula and for great crested newt through the creation of new ponds and hibernacula. As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including Policy CP21 of the Joint Core Strategy and the NPPF (see Section 2.0).

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

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7.0 REFERENCES

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Map 1 Site Location Plan

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LAND WEST OF ALLBROOK WAY, KNOWLE HILL, EASTLEIGH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

Client:	Bargate Homes Ltd
Date:	February 2024
Status:	Draft

KEY

Site Boundary



1:10,000

0 100 200 300 400 m

N

Prepared by: JT	Date: 290224
Last amended by:	Date:

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Map 2 Baseline Habitat Map

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LAND WEST OF ALLBROOK WAY, KNOWLE HILL, EASTLEIGH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 2 - Baseline Habitats

Client:	Bargate Homes Ltd
Date:	October 2024
Status:	Draft

KEY

- Site Boundary
- Bramble scrub
- Developed land; sealed surface
- Lowland mixed deciduous woodland
- Modified grassland
- Non-native and ornamental hedgerow
- Line of trees

1:2,500

0 25 50 75 100 m

N

Prepared by: KM	Date: 091024
Last amended by: N/A	Date: N/A

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Map 3 Hazel Dormouse Survey

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LAND WEST OF ALLBROOK WAY, KNOWLE HILL, EASTLEIGH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 3 - Hazel Dormouse Survey

Client:	Bargate Homes Ltd.
Date:	December 2023
Status:	Final

KEY

Site Boundary

Dormouse Tube Locations

No Evidence Found

1:3,000

0 30 60 90 120 m

N

Prepared by: RB	Date: 201223
Last amended by: N/A	Date: N/A

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Map 4 Reptile Survey

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LAND WEST OF ALLBROOK WAY, KNOWLE HILL, EASTLEIGH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 4 - Reptile Survey Results

Client:	Bargate Homes Ltd
Date:	January 2024
Status:	Draft

KEY

- Site Boundary
- Refugia Locations

Reptile Survey Results

- Slow worm - Adult
- Slow worm - Juvenile
- Grass snake - Adult
- Grass snake - Juvenile

1:2,500

0 25 50 75 100 m

N

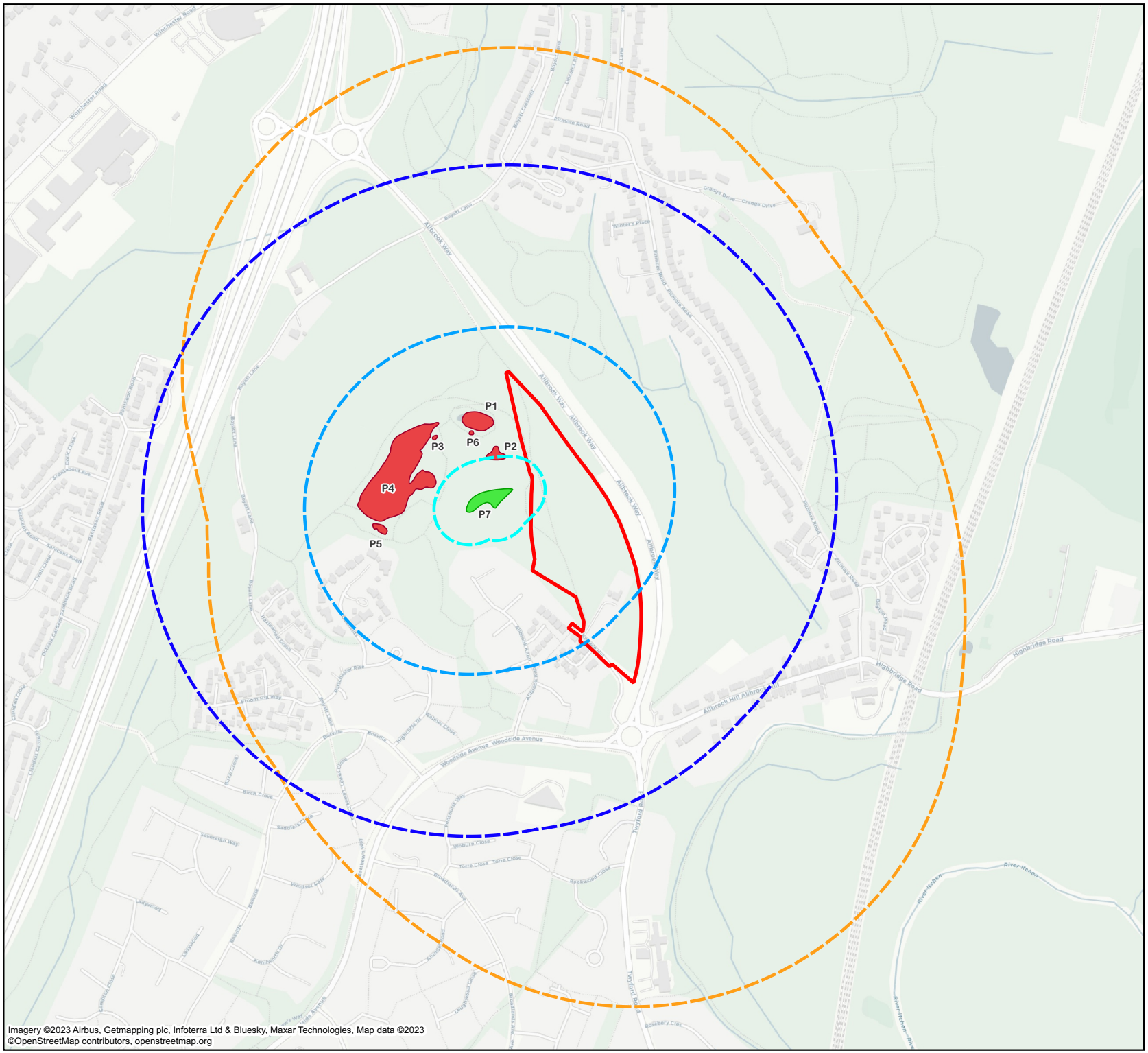
Prepared by: JP	Date: 090124
Last amended by: N/A	Date: N/A

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Map 5 Great Crested Newt Survey

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LAND WEST OF ALLBROOK WAY, KNOWLE HILL, EASTLEIGH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 5 - Great Crested Newt Survey Results

Client:	Bargate Homes Ltd
Date:	August 2024
Status:	Draft

KEY

- Site Boundary
- Site Buffer - 500m

GCN Survey Results

- Negative eDNA result
- Positive eDNA result; Low GCN population present in 2024

Confirmed GCN Pond Buffers

- 50m
- 250m
- 500m

1:8,000

0 75 150 225 300 m

N

Prepared by: JP	Date: 010824
Last amended by: JP	Date: 010824

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Appendix 1 Proposed Site Layout

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Issue:

Accommodation Schedule

Open Market

Unit Type	No. Beds	Storeys	No. of Units	Sqft./unit (Structure)	Total Sqft	Split
LARK	2	1	2	753	1,506	28%
BLACKBIRD	2	2	7	873	6,111	
BUZZARD M4(3)	3	2	2	1154	2,308	
CROW	3	2	2	1142	2,284	
FINCH	3	2	1	1150	1,150	
HERON	3	2	7	1147	8,029	53%
WREN	3	2	1	1151	1,151	
NIGHTINGALE	3	2	3	1151	3,453	
NIGHTINGALE (SIDE BAY)	3	2	1	1161	1,161	
PHOENIX	4	2	1	1440	1,440	
QUAIL	4	2	3	1486	4,458	19%
GROUSE	4	2	2	1485	2,970	
		Total OM	32		36,021	sqft

Affordable Rented

Unit Type	No. Beds	Storeys	No. of Units	Sqft./unit (Structure)	Total Sqft	
ROBIN GF	1	2	1	548	548	18%
ROBIN FF	1	2	1	676	676	
KIWI	2	2	5	906	4,530	45%
SPARROW	3	2	4	1019	4,076	36%
		Total AR	11		9,830	sqft

Affordable Shared Ownership

Unit Type	No. Beds	Storeys	No. of Units	Sqft./unit (Structure)	Total Sqft	
JAY M4(3)	1	1	1	753	753	17%
PIDGEON	2	2	1	801	801	50%
KIWI	2	2	2	906	1,812	
SPARROW	3	2	2	1019	2,038	33%
		Total SO	6		5,404	sqft
Total Units	**49**				**51,255**	**sqft**

KEY

- SITE BOUNDARY
- EXISTING TREES
- TREE RPA
- AFFORDABLE RENTED DWELLING
- AFFORDABLE SHARED OWNERSHIP DWELLING
- 20M OFFSET FROM SINC BOUNDARY
- WATER MAINS EASEMENT
- PUBLIC RIGHT OF WAY FOOTPATH
- POTENTIAL FOOTPATH CONNTECTIONS (REFER TO DETAILED LANDSCAPING PROPOSALS)
- LONG DISTANCE VIEWING CORRIDORS
- LAP — PROPOSED LAP
- PROPOSED DRAINAGE ATTENUATION (REFER TO DETAILED DRAINAGE PROPOSALS)
- BCP — BIN COLLECTION POINTS
- INDICATIVE BIN STORAGE IN GARDENS
- CYCLE STORAGE SHEDS (PROVIDED ON PLOTS THAT DO NOT HAVE GARAGES)

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N 0 25 50 m

LAND WEST OF ALLBROOK WAY, EASTLEIGH – PROPOSED LAYOUT

PEGASUS GROUP

| PEGASUSGROUP.CO.UK | TEAM/DRAWN BY: AS/TC | APPROVED BY: TC | DATE: 28/11/2024 | SCALE: 1:500@A0 | DRWG: P23-0088_DE_004_E_01 | CLIENT: BARGATE HOMES |

Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds . SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on SPAs, SACs or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an "Appropriate Assessment" to fully assess the plan or project against the site's conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a SPA, SAC or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

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Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Non-Statutory Sites

Locally Designated Sites

In addition to statutory designations, local authorities often designate sites of nature conservation importance at the local level. Such designations are named differently by each local authority and may be referred to as Local Wildlife Sites (LWS), Sites of Importance for Nature Conservation (SINC) or Sites of Nature Conservation Importance (SNCI), amongst others. The exact level of protection afforded to these sites varies and is normally defined through local planning policy.

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Appendix 3 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
- To impair its ability to survive, breed, or rear or nurture their young;
- To impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

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Great Crested Newt

This species is listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely, to impair its ability to survive, breed, or rear or nurture their young, to impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any one of these species uses for shelter or protection.

Badger

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

- Kill, injure or take a badger;
- Attempt to kill, injure or take a badger; or
- To damage or interfere with a sett.

The 1992 Act defines a badger sett as ‘any structure or place which displays signs indicating current use by a badger’.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

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These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

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Appendix 4 Protected and Notable Species Appraisal Methods

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as holes, cracks, splits, loose bark and ivy cladding for trees.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

Hazel Dormouse

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

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Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.3), and their suitability to be used as a network.

Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the

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England Biodiversity List, and Local Biodiversity Action Plan (LBAP) species[16], specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

[16] LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

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Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 9**[17].

Table 9: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
Moderate	A structure of tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch or scrub.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

[17] Table adapted from (Collins, 2016)

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Appendix 6 Statutory Designated Sites within the Desktop Study Area

Details of statutory designated sites within the desktop study area, as listed in Paragraph 4.2.1, are provided in **Table 10**.

Table 10: Statutory Designated Sites Located Within the Desktop Study Area

Site Name	River Itchen
Site Designation	SAC
Approximate Relative Location	205 metres to the south-east
Reasons for Designation:	
Annex I habitats that are a primary reason for selection of this site: ▪ Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation. **Annex II** species that are a primary reason for selection of this site: ▪ Southern damselfly *Coenagrion mercurial*; and ▪ Bullhead *Cottus gobio*. **Annex II** species present a qualifying feature but not a primary reason for site selection: ▪ White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes;* ▪ Brook lamprey *Lampetra planeri;* ▪ Atlantic salmon *Salmo salar*; and ▪ Otter *Lutra lutra.*	

Site Name	River Itchen
Site Designation	SSSI
Approximate Relative Location	205 metres to the south-east
Reasons for Designation:	
This site is notified for classic chalk stream and river, fen meadow, flood pasture and swamp habitats. The site is also notified for significant populations of the nationally rare southern damselfly *Coenagrion mercuriale* and assemblages of nationally-rare and scarce freshwater and riparian invertebrates, including the white-clawed crayfish *Austropotamobius pallipes*. This site is notified for otter *Lutra lutra*, water vole *Arvicola amphibius*, freshwater fishes including brook lamprey *Lampetra planeri* and Atlantic salmon *Salmo salar*, and the assemblage of breeding birds.	

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Appendix 7 Baseline Habitats

Table 11: Summary of Baseline Habitats

Habitat Ref.	1
Level 1	Terrestrial
Level 2	Grassland (g)
Level 3	Modified Grassland (g4)
Level 4	N/A
Level 5	N/A
Secondary Codes	Grazed
 	
Species List	
Perennial rye-grass, great plantain *Plantago major*, broad-leaved dock *Rumex obtusifolius*, soft brome *Bromus hordeaceus*, pineappleweed *Matricaria discoidea*, white clover *Trifolium repens*, scentless mayweed *Tripleurospermum inodorum*, common cat's-ear *Hypochaeris radicata*, common knapweed *Centaurea nigra*, common mallow *Malva sylvestris*, yarrow *Achillea millefolium*, selfheal *Prunella vulgaris*, common fleabane *Erigeron philadelphicus*, read bartsia *Odontites vernus* and common vetch *Vicia sativa*.	

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Habitat Ref.	2
Level 1	Terrestrial
Level 2	Woodland and forest (w)
Level 3	Broadleaved and mixed woodland (w1)
Level 4	Lowland mixed deciduous woodland (w1f)
Level 5	Other lowland mixed deciduous woodland (w1f7)
Secondary Codes	Line of trees




Species List

Ash, hazel, pedunculate oak, hawthorn *Crataegus monogyna*, bramble, enchanter's nightshade *Circaea lutetiana*, willowherb *Epilobium* species, wood avens *Geum urbanum*, blackhorn *Prunus spinosa*, ivy *Hedera helix*, cherry laurel, holly *Ilex aquifolium*, dog rose *Rosa canina*, black bryony *Dioscorea communis*, common hogweed *Heracleum sphondylium* and silver birch *Betula pendula*.

Habitat Ref.	3
Level 1	Terrestrial
Level 2	Heathland and shrub (h)
Level 3	Dense scrub (h3)
Level 4	Bramble scrub (h3d)
Level 5	N/A
Secondary Codes	




Species List

Bramble

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Habitat Ref.	4
Level 1	Terrestrial
Level 2	Heathland and shrub (h)
Level 3	Hedgerows (h2)
Level 4	Non-native and ornamental hedgerow (h2b)
Level 5	N/A
Secondary Codes	



Species List
Cherry laurel

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