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Executive Summary

Ecosupport Ltd was instructed by Dorrington Homes (UK) Ltd to undertake a Preliminary Ecological Appraisal (PEA) of Derry Dacy property and associated land, Bursledon (here after referred to as 'the site') to identify any potentially important ecological features that may be affected by the proposed development. As part of this assessment, the following surveys were undertaken:

- Walkover survey and habitats characterisation using the UK Habs vernacular
- Preliminary Roost Assessment (PRA) (September 2022)

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

- Moderate potential for roosting bats in dwelling
- Potential for foraging and commuting Badgers
- Low potential for reptiles
- Low potential for Hazel Dormouse
- High potential for breeding and nesting birds

In the absence of any mitigation measures, the proposed development is anticipated to result in, ***likely minor adverse effects*** at the ***local level (scale of impacts would be determined following the further survey work recommended).*** Suitable mitigation measures, recommendations and enhancements are outlined to minimise the scale of the impacts.

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1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was commissioned by Dorrington Homes (UK) Ltd. to conduct a Preliminary Ecological Appraisal (PEA) of the Derry Dacy property and associated land, Bursledon (here after referred to as 'the site'). The purpose of this survey was to assess any ecological impacts that may arise as a result of the proposed development. The objectives of the survey were as follows:

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

NB: If the works do not take place within 18 months of this report[1] then the findings of this survey will no longer be considered valid and may require updating.

1.2 Site Description & Location

The site comprises of the main dwelling, garage and associated land at Derry Dacy, Peewit Hill, Bursledon SO31 8BL (centred on OS grid reference SU 48327 11344) (**Fig 1**). The northern aspect of the site is bound by Peewit Hill, the eastern aspect by the M27 and the western aspect by a residential dwelling and its associated garden. The southern aspect is bound by disused outbuildings along with grassland and woodland. The immediately surrounding environ is semi-rural, predominantly comprising of woodlands, grasslands and residential dwellings with the M27 situated to the east and Bursledon to the south-west.

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

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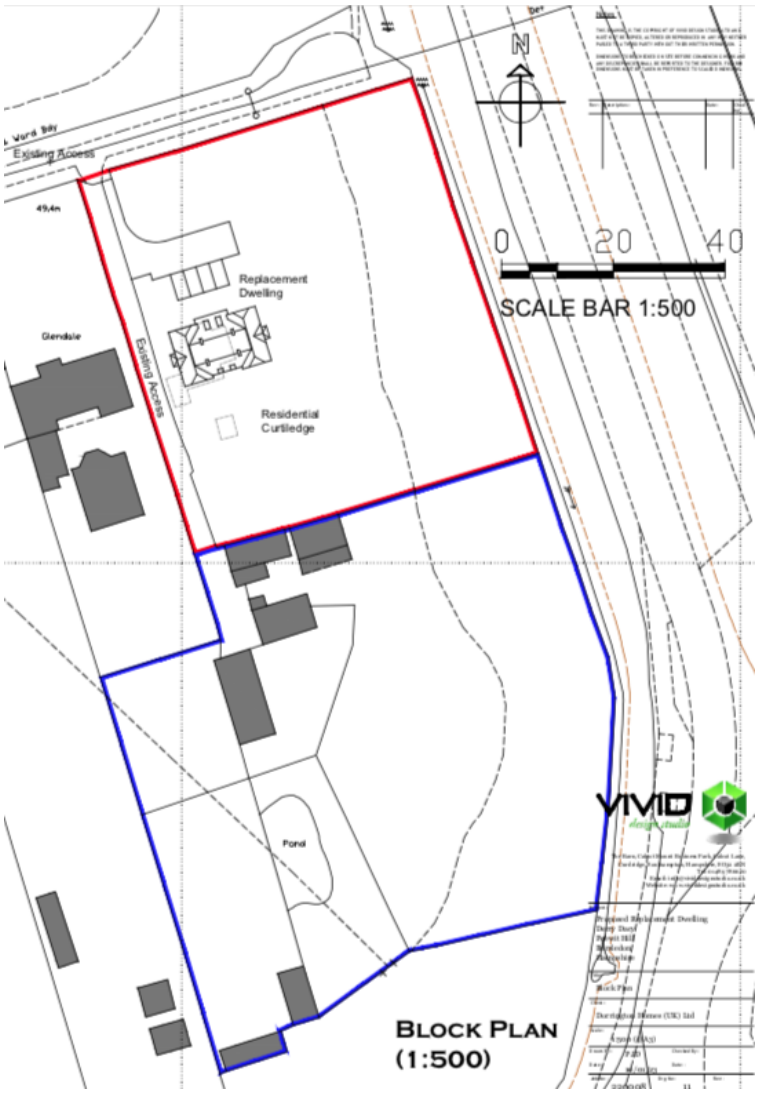
Figure 1. Redline boundary of the site with wider blueline (under client's ownership).



1.3 Proposed Development

The proposals involve the demolition of the existing dwelling and the construction of a replacement dwelling with associated landscaping.

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2.0 RELEVANT LEGISLATION AND POLICY

2.1 Legislation

2.1.1 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (2019)
This instrument makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue.

The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU.

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

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

2.1.2 The Wildlife and Countryside Act (1981) (as amended)
This is the primary piece of legislation by which biodiversity if protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

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

2.1.3 The Countryside and Rights of Way Act (2000)
This Act strengthens the Wildlife & Countryside Act by the addition of "reckless" offences in certain circumstances, such as where there is the likelihood of protected species being

present. The Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

2.1.4 Natural Environment and Rural Communities Act (2006)

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies must have due regard to the conservation of biodiversity with a particular regard to species and habitats considered to be of greatest conservation importance. This means that Planning authorities must consider biodiversity and the list of species and habitats of importance when planning or undertaking activities.

Section 41 of the Act lists species and habitats found in England which are considered to be priority species and were identified as requiring action under the UK Biodiversity Action Plan. The latest update to the list of Section 41 habitats of principal importance under the *UK Post – 2010 Biodiversity Framework* includes 56 listed habitats including arable field margins, traditional orchards, hedgerows and several specific habitats within the categories of coastal, grassland, freshwater, inland rock, marine, wetland and woodland. The latest update to the list of Section 41 species of principal importance was in May 2014 and now includes a list of 943 species covering a range of species including vertebrates, terrestrial and marine invertebrates, plants and fungi.

2.1.5 Protection of Badgers Act

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

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

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

2.2 Policy

2.2.1 National Planning Policy Framework (NPPF) 2021

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

The plan states to protect and enhance biodiversity plans should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks. This includes the

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hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them. Plans should identify the protection and recovery of priority species and opportunities for securing measurable net gains for biodiversity.

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

- if significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact;
- development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

2.2.2 Local – Eastleigh Borough Council

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

'General Approach

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

a. protect, conserve and enhance all:

i. international, national and local nature conservation designations;

and

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

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

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

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

National and Local Designations

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

a. there are no alternative solutions;

b. the adverse effects are unavoidable;

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

d. there is an overall biodiversity net gain; and

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

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

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

habitats, protected or priority species, or on the local ecological network unless it

can be demonstrated that:

a. there are no alternative solutions;

b. the adverse effects are unavoidable;

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

effects;

d. there is an overall biodiversity net gain; and

e. if there are any residual adverse effects, the benefits of the development clearlyoutweigh the adverse effects on priority habitats, priority and protectedspecies, and the local ecological network.

Irreplaceable habitats

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

Buffers

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

Surveys

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

a. there have been thorough habitat and species surveys;

b. the great crested newt strategic survey and strategy have been considered in all developments within 500m of a great crested newt pond; and

c. the strategic bat trapping survey has been considered in all developments within the locality of a woodland or connected habitat networks.'

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3.0 METHODOLOGY

3.1 Desk Study

3.1.1 Waterbodies

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

3.2 Field Survey

3.2.1 Habitats

The field survey work which forms the basis of the findings of this report was carried out by Adam Jessop BSc (Hons) MSc ACIEEM (principal ecologist with EcoSupport) and Louise Davies BSc (Hons) (assistant ecologist with EcoSupport) on the 12th September 2022. Weather conditions during the survey comprised temperatures of 26 degrees Celsius, a light air and passing clouds.

Habitats on site pre-development were identified in accordance with the categories specified for a UK Habitats survey, using Habitat Definitions Version 1.1 (UKHab Ltd., 2020). This was chosen as an appropriate habitat categorisation system as it fits within the Biodiversity Metric 3.1 calculation. Where appropriate primary habitat codes were used although for some habitat types, the use of secondary habitat codes was necessary as well.

3.2.2 Badger

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

3.2.3 Bats

An assessment of the buildings / trees on site was undertaken by Adam Jessop during the initial walkover survey under class level 2 survey licence number (2015-13366-CLS-CLS). This followed BCT (Collins (ed) 2016) best practice survey guidelines searching for any PRFs / evidence of bat occupation and assigning a roost potential assessment as outline in **Table 1** below.

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

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features on site are likely to be used by roosting bats
Low	A structure or tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions[2] and/or suitable surrounding habitat to be used on a regular basis or by a large number of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

3.3 Assessment Methodology

3.3.1 Introduction

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

3.3.2 Valuation

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

3.4 Limitations

There were not considered to be any limitations of the survey results with all areas of the site to be impacted upon accessible and the survey conducted at the appropriate time of year.

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

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4.0 ECOLOGICAL BASELINE

4.1 Vegetation Survey Results

The vegetation within the site has been described below using the UK Habs Habitat Definitions Version 1.1 (UKHab Ltd., 2020). The below species noted should not be considered an exhaustive list and instead refer to dominant, characteristic and other noteworthy species associated with each community within the survey area. The habitat types on site comprise (approximate spatial extent shown in the habitat map appended) with the secondary codes indicated after in brackets).

- Lowland mixed deciduous woodland (w1f)
- Bramble scrub (h3d) (secondary habitat codes 76 recent management and 11 scattered trees)
- Hedgerow (h2)
- Artificial unvegetated, unsealed surface (u1c)
- Developed land; sealed surface (u1b) (secondary code 10 scattered scrub)
- Buildings (u1b5)

4.1.1 Lowland Mixed Deciduous Woodland (w1f)

Woodland was present along the eastern boundary of the site (**Fig 3**) and comprised of Oak (*Quercus robur)*, Poplar (*Populus spp.)* and Elm *(Ulmus minor)*. Ground flora and understorey vegetation within the woodland was limited (**Fig 4**) and consisted of Yorkshire Fog *(Holcus lanatus)*, Common Bent *(Agrostis capillaris)*, Bramble *(Rubus fruticosus)*, Dandelion *(Taraxacum agg.)*, Ivy (*Hedera helix*), Broad-Leaved Dock (*Rumex obtusifolius*), Creeping Buttercup *(Ranunculus repens)*, Bird's Foot Trefoil *(Lotus corniculatus)*, Ribwort Plantain *(Plantago lanceolata)* and Spear Thistle *(Cirsium vulgare)*.

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Figure 3. Woodland along the eastern boundary of the site (taken September 2022).

Figure 4. Understorey of the woodland along the eastern boundary of the site (taken September 2022).

4.1.2. Bramble Scrub (h3d) (secondary habitat codes 76 recent management and 11 scattered trees)

Much of the southern portion of the site comprised of Bramble scrub which had been recently cleared (secondary habitat code 76) and, therefore, was patchy and of a low height (**Fig 5**). The following species were present: Bramble, Broad-Leaved Dock (*Rumex obtusifolius*), Buddleia *(Buddleja davidii)*, Common Nettle *(Urtica dioica)*, White Goosefoot (*Chenopodium*

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album), Pendulus Sedge *(Carex pendula)*, St John's Wort *(Hypericum perforatum)*, Spear Thistle *(Cirsium vulgare*) and Ribwort Plantain *(Plantago lanceolata)*. Additionally, there were 3 small fruit trees (secondary habitat code 11) present to the south-east of the main dwelling (**Fig 5**).

Figure 5. Recently cleared Bramble scrub and fruit trees in the southern portion of the site (taken September 2022).

4.1.3 Hedgerow (h2)

There was a Laurel (*Prunus spp.*) hedgerow present along the western boundary of the site.

4.1.4 Artificial Unvegeated, Unsealed Surface (u1c)

Much of the northern portion of the site comprised of piles of rubble (**Fig 6**) that had been imported into the site after vegetation clearance works (based on aerial imagery, it appears this area previously supported a grassland scrub mosaic as seen in **Fig 1**).

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Figure 6. Rubble piles in the northern portion of the site (taken September 2022).

4.1.5 Developed Land; Sealed Surface (u1b) (secondary habitat code 10 scattered scrub)
A raised concrete slab patio wrapped around the southern and eastern aspects of the main dwelling. The patio was in poor condition and had become overgrown with Bramble (*Rubus fruticosus*), Buddleia (*Buddleja davidii*) and Sycamore (*Acer pseudoplantanus*) saplings (secondary habitat code 10).

4.1.6 Buildings (u1b5)
Buildings formed the final habitat type on site and these are described in greater detail in the next section.

4.2 Bats

4.1.2 Buildings
The main dwelling was a bungalow of brick wall construction with white external rendering, a machine-cut concrete slab tile roof, UPVC guttering and wooden fascias and soffits (**Fig 7**). The building was in poor condition and several gaps were noted beneath raised roof tiles and ridge tiles (**Fig 7**). Additionally, a substantial amount of Ivy was growing on the outside of the main dwelling which could conceal further PRFs. Internally, the loft space was poorly sealed with several gaps noted in the lining. There were also 2 broken windows providing access into the loft space (**Fig 7**) although no evidence of bat presence was found. Given the above, the main dwelling was considered to be of ***Moderate potential*** for roosting bats.

There was a small wooden shed present on site with a felt shingle roof. Due to the nature of its construction, the shed was considered to be of ***Negligible potential*** for roosting bats.

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Figure 7. Preliminary roost assessment of the main dwelling on site (images taken September 2022).

View of the internal loft space with gaps in the lining and broken windows

Gap underneath the ridge tiles on the eastern elevation

Gap underneath the roof tiles and underneath the ridge tiles on the western elevation

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4.2.3 Trees

Following thorough inspection, no PRFs were identified on any of the trees on site and they were, consequently, deemed to hold ***Negligible potential*** for roosting bats.

4.3 Badgers

During the walkover on site, no evidence of Badgers was noted. However, the woodland on site does provide some suitable habitat for foraging and commuting Badgers.

4.4 Reptiles

4.4.1 On-Site Assessment

Much of the site does not provide suitable habitat for reptiles as it is primarily comprised of disturbed, unvegetated surfaces as well as grasses and scrub of a short height. However, in some areas of the site (particularly around the main dwelling) there were patches of taller scrub which provide the heterogeneity and structure favoured by reptiles. Given the limited extent of this suitable habitat, the site is considered to be of ***Low potential*** for reptiles.

NB Had the site not been recently cleared, and had the scrub and grassland habitats indicated by aerial imagery (Fig 1) been retained, the site would have provided greater potential for reptiles.

4.5 Great Crested Newt (GCN)

4.5.1 Water Bodies within 250m of the Site

A number of ponds and drainage ditches were identified within 250m of the site boundary (**Fig 8**).

- **Ditch 1** – located adjacent to the eastern boundary of the site.
- **Ditch 2** – located approximately 120m to the north-east.
- **Pond 1** – located approximately 60m to the south.
- **Pond 2** – located approximately 200m to the north-west.
- **Pond 3** – located approximately 250m to the south

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Figure 8. Location of waterbodies identified within 250m of the site (OS Maps, 2022).

4.5.2 On-Site Assessment

Ditch 1 was dry at the time of the PEA and was deemed unlikely to hold water at any point during the year. Pond 1 was also dry at the time of the PEA. The wetland vegetation within the pond indicated that it once held water however there was evidence of disturbance in the area in form of dirt and rubble (**Fig 9**). Following a review of aerial imagery, it was deemed that the pond is likely to be ephemeral and is unlikely to be suitable for GCN. Pond 2 was located within private land and, therefore, was not assessed at the time of the PEA. As it is situated within a woodland, it is likely to be ephemeral and is unlikely to be suitable for GCN. Both Ditch 2 and Pond 3 were considered separated by significant barriers to dispersal in the form of large roads. Given the above information, the site is considered to be of ***Negligible potential*** for GCN.

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Figure 9. View of Pond 1 located approximately 60m south of the site (taken September 2022).

4.6 Hazel Dormouse

4.6.1 On-Site Assessment

The hedgerow adjacent to the eastern boundary of the site running alongside the M27 was considered to be highly suitable for Hazel Dormouse because it provides the required heterogeneity of resources and structure as well as providing sufficient connectivity to further hedgerows and woodlands. While much of the habitat on site was deemed to be unsuitable for dormice, the canopy of the woodland on site does provide some suitable habitat. Taking into account the close proximity of suitable dormouse habitat and the local dormouse records while also considering the limited extent of suitable habitat within the site itself, the site is considered to be of ***Low potential*** for Hazel Dormouse.

NB Had the site not been recently cleared, and had the scrub indicated by aerial imagery (Fig 1) been retained, the site would have provided greater potential for Hazel Dormouse.

4.7 Nesting and Notable Birds

The hedgerow and woodland on site provide suitable habitat for a range of bird species. Therefore, the site is considered to have ***High Potential*** to support breeding and nesting birds.

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4.8 Invasive Species

Within the ecology response for the planning application concerns were raised with regard to the presence of Bamboo on site. However, no Bamboo was present at the time of the PEA and it can be assumed that this has now been removed.

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5.0 LIKELY ECOLOGICAL IMPACTS IN ABSENCE OF MITIGATION

5.1 Introduction

The CIEEM guidelines (CIEEM 2018) require that the potential impacts of the proposals should be considered in absence of mitigation. In order for a significant adverse effect to occur, the feature being affected must be at least of local value. However, in some cases, features of less than local value may be protected by legislation and/or policy and these are also considered within the assessment. Although significant effects may not be identified at this stage of the assessment, it is often possible to provide appropriate mitigation.

5.2 Site Preparation and Construction

5.2.1 Impacts to Habitats

The proposals will involve the loss of the recently cleared bramble scrub artificial / unsealed surface, the overgrown patio area and the buildings which are only of ***site*** value. The development works would also take place adjacent to the retained woodland on site and therefore the trees could be damaged by machinery and particularly by root zone compaction. Without mitigation, the potential indirect effects on the woodland would have an ***adverse impact*** on habitats of ***local value***.

5.2.2 Impacts to Wildlife

The main dwelling on site was considered to be of moderate potential for roosting bats. Therefore, an ***adverse impact is possible*** at the ***site level*** if Phase II surveys determine there are roosting bats present.

There is potential for foraging and commuting Badgers within the site. If mitigation is not taken during excavation works as part of the development, there is potential for them to become entrapped. Therefore, an ***adverse impact is possible*** at the ***local level.***

The proposed works will likely require the clearance of some or all of the bramble scrub habitat on site. This has the potential to cause harm or even death of individual reptiles, if present. Therefore, in the absence of mitigation, an ***adverse impact is possible*** at the ***local level***.

The proposed works are not expected to involve removal of the woodland on site. However, if any of the trees within the woodland were to be removed, this could lead to the disturbance, harm or even death of any Hazel Dormice within the vegetation, if present. Therefore, in the absence of mitigation, an ***adverse impact is possible*** at the ***local level***.

The proposed works are not expected to involve removal of the woodland or the hedgerow on site. However, if the hedgerow or any of the woodland trees were to be removed, this could lead to the disturbance, harm or even death of any nesting birds within the vegetation, if present. Therefore, in the absence of mitigation an ***adverse impact is possible*** at the ***local level***.

5.3 Site Operation

5.3.1 Impacts to Wildlife

Although it is not expected that new lighting will be used, the development may result in an increase in lighting within the general area from external lights on the replacement dwelling. This can affect the behaviour, particularly foraging, of nocturnal wildlife. Therefore, an ***adverse impact is possible*** on nocturnal species.

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6.0 RECOMMENDATIONS & MITIGATION

6.1 Introduction

The below sections outline a number of recommendations for further surveys / proposed mitigation measures that are required. In addition to this, measures are outlined to protect the existing features of value and provide enhancements post development.

6.2 Bats

The main dwelling on site is considered to be of ***Moderate potential*** for roosting bats. As per best practice guidelines (**Table 2**), it therefore requires two separate survey visits to establish the presence / likely absence of roosting bats and to inform a detailed impact assessment with regards to roosting bats on site as necessary. This must include one dusk emergence survey and a separate dawn re-entry survey.

Table 2. Recommended minimum number of survey visits (from Table 7.3 (BCT, 2016).

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

6.2.2 Mitigation/Enhancements

Specific mitigation and enhancement measures will be recommended following completion of the Phase II bat surveys. Below are some general mitigation and enhancements for bats encouraged to be used.

6.2.2.1 Sensitive lighting

Recommendations for senistive lighting will be made following the findings of the further bat survey work recommended.

6.2.2.2 Bat Bricks

To act as biodiversity enhancement, the new dwelling will include 2 bat bricks. The bat bricks used should be the ibstock bat brick B as they are available in a variety of different brick colours and require no maintenance (**Fig 10**). These will be positioned as close to the eaves as possible, away from windows and in a position that will receive direct sunlight.

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Figure 10. The Ibstock bat brick 'B' that will be incorporated into the newly built dwelling.

6.3 Badgers

During the construction phase, any open excavations left overnight should either be covered to prevent commuting Badgers falling in or escape ladders should be used to prevent them from becoming trapped. Any open pipework should be checked and then capped nightly. In addition to this, within 1 week of ground works commencing, an updated walkover survey will be undertaken by a suitably qualified ecologist. The aim of this will be to ensure no new mammal holes have establish on site and if any are noted, these will need to be monitored to ensure the appropriate actions are taken (i.e. if a Badger sett is present, it may be that it needs to be closed under licence).

6.4 Reptiles

It is evident from aerial imagery (**Fig 1**) that the site previously supported a mosaic of scrub and grassland which would have provided suitable habitat for reptiles. Despite recent clearance, it is considered that the reptiles previously supported by this habitat are likely to still be present on site. Additionally, areas of Bramble scrub that have re-grown around the main dwelling on site have been assessed as suitable to support reptiles. Therefore, ***it is recommended that a suite of reptile presence/likely absence surveys be completed.*** This will involve the laying of artificial refugia within areas of suitable habitat and checking the refugia on seven occasions between March and mid-October (optimal survey season April, May and September with July and August typically not considered appropriate) in suitable weather conditions. Should reptiles be present it is recommended that suitable habitats are retained and protected during works, with exclusion fencing used if necessary to ensure reptiles cannot enter the construction area. Translocation of reptiles out of the construction area may also be necessary.

6.5 Hazel Dormouse

It is understood from the proposals that the woodland on site is to be retained. If, for any reason, the woodland trees were to be removed, summer clearance methodology (i.e. single stage active season) will be employed (Bright, Morris and Mitchell-Jones, 2006). This will involve taking out small amounts of vegetation on successive days at a time of year when the Hazel Dormice are active and able to respond immediately. Such clearance will be done by

hand under the supervision of an Ecological Clerk of Works (ECoW) and will be combined with searches for nests. Clearance in May will avoid separating females from dependent young, but there may be a conflict here with nesting birds, at least up until about July. After early June, female dormice are likely to have young in their nests until about late September (depending on latitude and weather). In the event that Hazel Dormice are found during clearance, all work will be stopped and a Suitably Qualified Ecologist (SQE) will be contacted.

6.6 Breeding and Nesting Birds

6.6.1 Timing

It is understood from the proposals that the woodland and hedgerow on site are to be retained. If, for any reason, the hedgerow or woodland trees were to be removed, this work will be undertaken outside of the bird-nesting season (typically March – September, dependent on weather) in order to avoid disturbance of nesting birds or damage to their nests. If this is not possible, the vegetation proposed for clearance should be thoroughly checked by an ecologist immediately prior to demolition. If any active nests are found, they should be left undisturbed with a suitable buffer of undisturbed vegetation (indicated by barrier tape or similar) and monitored until the chicks have fledged.

6.6.2 Bird Bricks

To act as biodiversity enhancement, half of the newly built dwellings will incorporate one Swift brick. The 'CJ Wildlife Swift maxi nesting box' (**Fig 11**) with entrance via a CJ Wildlife 'Cambridge Swift full-face brick' (The Cambridge System is a concept comprising an entrance piece and a nest box embedded in the cavity and inner leaf. It is particularly suited to gable ends at roof-space level). If this model is not suitable for the building specifications, an alternative swift box with internal floor space exceeding 400cm squared must be used. A list of swift boxes can be found on the RSPB website via the following link (https://www.rspb.org.uk/globalassets/downloads/about-swifts/swift-bricks.pdf) however it is worth noting that some of these do not have an internal floor space exceeding 400cm squared and are therefore not considered appropriate.

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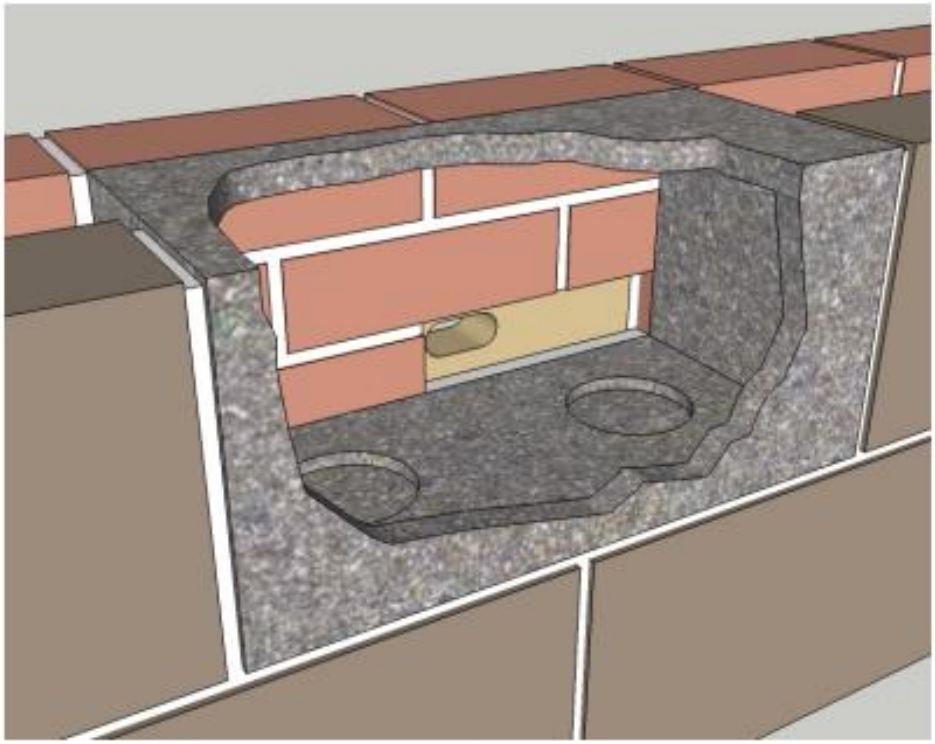
Figure 11. A schematic of how the Cambridge full face Swift brick leads into a cavity created by the prior installation of the Swift maxi nesting box.



6.7 Protection of Existing Trees

All of the existing trees within the woodland on site are understood to be retained as part of the proposed plans and should be protected from damage during the works. The existing rubble on site should be removed from around the base of the trees and the woodland area should be fenced using Heras fencing or similar to prevent access by machinery. This will ensure that the trees are not directly impacted upon during the works and that the root protection zones are not compacted.

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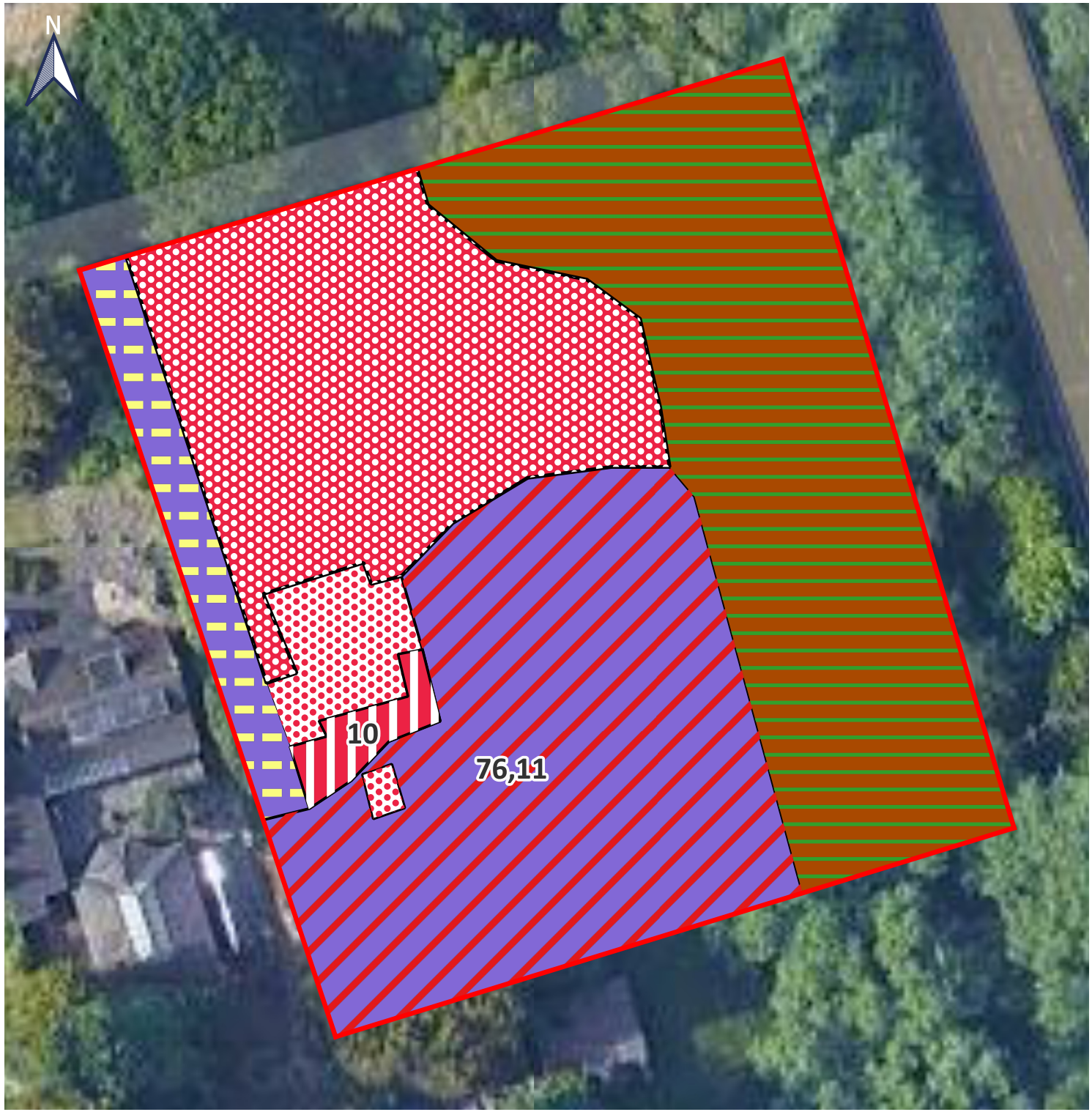

Legend

- Site boundary
- Lowland mixed deciduous woodland (w1f)
- Hedgerow (h2)
- Bramble scrub (h3d)
  Secondary code(s):
  - Recent management (76)
  - Scattered trees (11)
- Developed land. sealed surface (u1b)
  Secondary code(s):
  -Scattered scrub (10)
- Artificial unvegetated unsealed surface (u1c)
- Buildings (u1b5)

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Map	Uk Habs Site Map
Site	Derry Dacy
Client	Dorrington Homes (UK) Ltd
Date	15/09/2022

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