

# Ecological Impact Assessment (non-EIA)

**SITE LOCATION**

Land at Exeter Airport

**PREPARED FOR**

Paragon Building Consultancy

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**PRINCIPAL AUTHOR**

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## Executive Summary

### *The Site*

The Site is located to the north of Westcote Lane, adjacent to the existing Exeter Airport complex. It is centred approximately at National Grid reference SY 00860 93432.

The Site comprises one large arable field in active management for crops. The Site is bordered by hedgerows and small discrete areas of scrub. There are several small brick buildings along the boundaries of the field which appear to be old military pillboxes, these are in varying states of decline. There is an asphalt public footpath along the southern boundary of the Site.

### *The Proposed Development*

The Proposed Development involves the redevelopment of the Site to a commercial logistics warehouse development, with associated access road and Sustainable Urban Drainage Systems.

### *Statutory and Non-Statutory Wildlife Sites Summary*

There are no statutory wildlife sites within 50m of the Site. Therefore, no direct or indirect impacts to statutory wildlife sites are considered likely to arise because of the Proposed Development.

There is one non-statutorily designated wildlife site within 50m of the Site, this is Exeter Airport Other Sites of Wildlife Interest (OSWI). Exeter Airport OSWI lies immediately adjacent to the northern boundary of the Site. It is designated as a marshy grassland field of 11.9 ha in size.

The close proximity of Exeter Airport OSWI to the Site means there is potential for this OSWI to be negatively impacted by the Proposed Development, particularly during the construction and clearance phases. The most probable impacts to the OSWI are through increased dust deposition from construction works during the clearance and construction phases of the Proposed Development, and potential pollution from surface water runoff during both the construction and operational phases of development.

### *Habitats Summary*

The ecologically important habitats present at the Site, and therefore those that will be subject to further consideration within this assessment are:

- Species poor hedgerow (priority habitat)- ecologically important at the Civil Parish level.
- Species rich hedgerow (qualifies as 'important' under the Hedgerow Regulations (HMSO, 1997) - ecologically important at the Civil Parish level.

The western hedgerow qualifies as 'important' under the Hedgerow Regulations (HMSO, 1997).

All of the hedgerows at the Site qualify as Habitats of Principal Importance and are ecologically important up to the Civil Parish level because they provide some limited connectivity on/off Site.

In the absence of mitigation, the Proposed Development will result in the following impacts and effects to important habitats; compaction of roots due to movement of plant machinery/vehicles, contamination of hedgerow and hedgerow soils from chemical spillage, dust deposition to the hedgerow and the loss of 0.09km of intact species poor hedgerow to facilitate the construction of a new access road.

### *Species Summary*

Following the completion of the further protected species surveys, the following species will be considered further within this assessment:

- Reptiles,
- Bats (foraging and commuting),



- Hazel dormice
- Nesting birds, and
- Hedgehog.

### *Reptiles*

Grass snake (*Natrix helvetica*) are confirmed to be present within the Site. Based on the information gathered to date there is likely to be a low population of grass snake present within the Site. An adult female and juvenile grass snake were recorded at the Site. therefore, a breeding population is confirmed to be present within the Site.

In the absence of mitigation, the Site clearance and construction work may lead to direct killing/injury of individual grass snake. Additionally to this, the removal of a small section of hedgerow habitat to create the access road into the Site will reduce sheltering and foraging opportunities for grass snake within the local area and the removal of the dilapidated pillbox structure may potentially remove nesting features within the Site.

### *Bats (foraging and commuting)*

The hedgerows at the Site are known to be used by low to moderate numbers of commuting and foraging individual bats, primarily soprano pipistrelles.

Soprano pipistrelles are regarded as a light tolerant species and their behaviours are less likely to be affected by increased lighting levels at the Site. However, less light tolerant species such as *Myotis* sp., barbastelle and serotine were also recorded in low numbers during the surveys. Therefore, it is likely that any increase in lighting as a result of the Proposed Development (in both the construction and operational phase of the development) may impact these species potentially discouraging them from commuting through the Site.

### *Hazel Dormice*

Hazel dormice nests were recorded within every hedgerow at the Site and two individual adult dormice were also recorded within a nest tube during the October nest tube check. Therefore, hazel dormice are confirmed to be present within the Site.

In the absence of mitigation, there is the potential for killing or injuring hazel dormice during the clearance of a small section of hedgerow habitat to create the access road into the Site, this will also reduce the sheltering and foraging opportunities for hazel dormice within the local area. There is also the potential for disturbance to hazel dormice due to Site clearance and construction adjacent to the hedgerows, including increases in noise and lighting and potential for disturbance to hazel dormice due to increased lighting and noise from cars and lorries during the operational phase of the Proposed Development

### *Nesting Birds*

The removal of the small section of hedgerow will result in a permanent negative not-significant effect to nesting birds due to the permanent loss of suitable nesting habitat, and may result in a legislative breach if undertaken during the nesting season.

### *Hedgehogs*

The hedgerows at the Site are suitable for hedgehogs, as they provide suitable commuting corridors and areas for shelter and hibernation.

The Site clearance phase of construction has the potential to affect hedgehog via direct injury/killing by machinery. This is unlikely to result in a significant adverse effect to hedgehog as only a small number of hedgehogs are anticipated to use the hedgerow for shelter.

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The removal of a small section of hedgerow at the Site will result in a permanent not significant negative effect to hedgehog due to the loss of foraging, commuting and sheltering habitat.

### ***Avoidance and Mitigation Measures***

#### *Non-Statutory Wildlife Sites*

A Construction Environmental Management Plan (CEMP) must be produced for the Proposed Development and will include detailed measures necessary to avoid and control adverse impacts to Exeter Airport OSWI, including but not limited to measures to mitigate environmental impacts such as dust deposition as well as general measures to reduce and prevent noise, vibration and chemical spillage etc.

Proposed hedgerow planting along the northern boundary of the Site is considered sufficient to prevent surface water run-off into the OSWI to a negligible level throughout the operational phases of the Proposed Development.

#### *Hedgerows*

The retained trees, hedgerows and woodland should be protected appropriately throughout the construction phase with advice from an arboricultural consultant.

The CEMP must also include detailed measures necessary to avoid and control adverse impacts to the retained hedgerows at the Site.

#### *Reptiles*

A Reptile Method Statement must be produced and implemented to reduce the likelihood of individual grass snake being injured and/or killed during the Site clearance and construction phases of the Proposed Development.

To compensate for the loss of suitable 'edge' habitat at the interface of the hedgerows and the arable field, the retained hedgerows will also be buffered within the landscape design, maintaining the 'edge' habitat preferred by grass snakes. The buffer will be seeded with a tussock-forming species-rich grassland mix to provide suitable shelter and foraging opportunities for grass snake.

A minimum of two compost heaps will also be provided within the SUDS area to ensure that suitable egg-laying habitat is present for grass snake in the long-term.

The creation of a new hedgerow along the northern boundary of the Site and the native scrub planting/thicket planting surrounding the SUDS (which will be sympathetically designed to encourage use by grass snakes) will increase the availability of suitable habitat within the Site.

#### *Bats*

A wildlife sensitive lighting strategy must be produced, to avoid lighting impacts to the retained and proposed hedgerows, and to reduce lighting impacts to the northern hedgerow to reduce negative effects to commuting/foraging bats.

The not significant effect to foraging and commuting bats due to loss of a small section of hedgerow will be compensated for within the Proposed Development via the planting of a new hedgerow along the northern boundary of the Site which will increase connectivity for bat populations within the local area.

The native scrub planting/ thicket planting surrounding the SUDS will increase the availability of suitable foraging habitat for bats within the Site.

#### *Hazel Dormice*

A Hazel Dormouse Mitigation Licence must be obtained from Natural England prior to any works starting at the Site that may affect hazel dormouse. Failure to obtain a licence prior to works commencing is likely



to result in an offence under wildlife legislation.

To compensate for the loss of a small section of hedgerow to facilitate the access road into the Site and to compensate for the presumed slight degradation of the remaining hedgerows due to increased lighting at the Site during the operational phase of the development, the Proposed Development will include several compensatory features to improve the Site for hazel dormice, including:

- Planting native shrub species and woodland thicket habitats around the SUDS, which will increase the availability of foraging and nesting habitat within the Site, and
- Provision of 10 dormouse nest boxes within the native scrub habitat surrounding the SUDS to increase the availability of nesting sites for dormice within the Site.

### *Hedgehog*

The CEMP will detail measures to reduce the risk of significant adverse effects to hedgehog to a negligible level during the Site clearance phase.

The not significant effect to hedgehog due to loss of a small section of hedgerow will be compensated for by the enhancement of the retained hedgerow and creation of a new hedgerow along the northern boundary of the Site.



## 1. Introduction/Background

### 1.1 The Principal Author

1.1.1 The Principal Author of this report is Hattie Fuller *BSc (Hons), ACIEEM* (Senior Ecological Consultant). The Principal Author has over three years of professional experience in ecological consultancy and has worked on projects ranging from large national infrastructure developments to commercial and residential sites throughout the country. The Principal Author currently holds a Class 2 survey licence from Natural England for bats (*Chiroptera* spp.) and a Class license from Natural England for surveying and handling dormice (*Muscardinus avellanarius*). She is a member of the Chartered Institute of Ecology and Environmental Management ('CIEEM') she is, therefore, subject to CIEEM's Code of Professional Conduct.

1.1.2 The detail provided within this report is a true and accurate reflection of both the Site conditions at the time of the survey, as well as the professional opinion of the Principal Author. Where surveys were undertaken by other team members these have been acknowledged and their credentials addressed in associated technical appendixes.

### 1.2 Purpose and Brief

1.2.1 Paragon Building Consultancy (the Project Manager) commissioned Wharton Natural Infrastructure Consultants Ltd (Wharton) on behalf of the Applicant to undertake a Preliminary Ecological Appraisal (PEA) for the Proposed Development of an area of land known as Land at Exeter Airport, Devon ('the Site' – outlined in red on Appendices 1 and 2).

1.2.2 Following recommendations from the PEA, Wharton were subsequently instructed to undertake the following phase 2 ecological surveys at the Site:

- Reptile presence/ likely absence surveys
- GCN eDNA and presence/likely absence surveys
- Breeding bird surveys
- Water vole surveys
- Emergence/re-entry surveys of the pillbox for roosting bats,
- Bat transect surveys
- Hazel dormouse presence/ likely absence surveys

1.2.3 Wharton have subsequently been instructed to produce an Ecological Impact Assessment (EclA) for the Proposed Development.

1.2.4 The results of the PEA (Report Reference: 210423 1248 PEA V1) were provided to the Project Manager via a written report sent by email. The PEA report will also be submitted with the planning application for clarity on the process undertaken to avoid, mitigate and compensate for ecological impacts.

1.2.5 The purpose of the EclA (as per CIEEM guidance (CIEEM, 2018)) is:

- To identify and describe all potentially significant ecological effects associated with the Proposed Development,
- To set out the mitigation measures required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects,
- To identify how mitigation measures will/could be secured,



- To provide an assessment of the significance of any residual effects,
- To identify appropriate enhancement measures, and
- To set out requirements for post-construction monitoring.

### **1.3 Description of Site and Local Area**

1.3.1 The Site is located to the north of Westcote Lane adjacent to the existing Exeter Airport complex. It is centred approximately at National Grid reference SY 00860 93432.

1.3.2 The Site comprises one large arable field currently in active agricultural management. The Site is bordered by hedgerows and small areas of scrub. There are several small brick buildings along the boundaries of the field which appear to be old military pillboxes and are in varying states of structural decline. There is an asphalt public footpath along the southern boundary of the Site.

1.3.3 Immediately north of the Site is a local wildlife site known Exeter Airport Other Sites of Wildlife Interest (OSWI), which comprises grassy grassland adjacent to the runway for Exeter Airport. To the east are agricultural fields and to the south and west are an industrial estate and the Exeter Airport complex respectively.

### **1.4 Wildlife Corridors and Ecological Connectivity**

1.4.1 To the south and west there is poor ecological connectivity to/from the Site due to the Exeter Airport complex and industrial estate and the A30 motorway which is located c.220m to the south of the Site running east to west. Ecological connectivity to the north and east is moderate with habitat links via hedgerows and field ditches connecting habitat to/from the Site.

### **1.5 Development Proposals**

1.5.1 The Proposed Development involves the redevelopment of the Site to commercial warehouses, with associated access roads and Sustainable Urban Drainage Systems. The proposed Site layout can be seen in Appendix 4.

1.5.2 The proposals detailed above will be referred to throughout this report as the 'Proposed Development'.



## 2. Relevant Planning Policy & Legislation

### 2.1 Relevant Legislation

2.1.1 National and international legislation relevant to the Proposed Development is summarised below in Table 1.

**Table 1. Legislation Relevant to the Proposed Development**

Legislation*	Relevance to the Proposed Development
<p><b>The Conservation of Habitats and Species Regulations 2017 (DEFRA, 2022)</b></p> <p><i>Amended by<sup>1</sup></i></p> <p><b>The Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (HMSO, 2019)</b></p>	<p>Affords protection to species listed under Schedules 2 and 5 and gives provision for the allocation and protection of European protected sites.</p>
<p><b>The Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981)</b></p>	<p>Affords protection to species listed under Schedule 5 of the Act and gives provision for the allocation of statutory wildlife sites.</p>
<p><b>The Natural Environment and Rural Communities (NERC) Act 2006 (HMSO, 2006)</b></p>	<p>Places a duty on planning authorities to consider habitats and species of principal importance in planning applications.</p>
<p><b>The Protection of Badgers Act 1992 (HMSO, 1992)</b></p>	<p>Offences under the Act include damaging, destroying or obstructing access to a badger sett, disturbing a badger when it is occupying a badger sett, and killing or injuring a badger.</p>

\*Full legislative text should be referred to as table text is a summary only

1 - The Conservation of Habitats and Species Regulations 2017 provides safeguards for European Protected Sites and Species (as listed in the Habitats Directive). This has recently been amended by the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 which continue the same provision for European protected species, licensing requirements, and protected areas now that the UK has left the European Union.



**2.2 Relevant Planning Policy**

2.2.1 Planning policies that are relevant to the Proposed Development are summarised below in Table 2.

**Table 2. Planning Policy Relevant to the Proposed Development**

Planning Policy	Relevance to the Proposed Development
<p><b>National Planning Policy Framework (Department for Communities and Local Government, 2021)</b></p>	<p>National Planning Policy Framework section 174 states that planning policies and decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressure.</p> <p>Section 179 of the NPPF states that to protect and enhance biodiversity, plans should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.</p> <p>Plans should also promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.</p> <p>Section 180a and 180c (respectively) of the NPPF state: <i>"if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts) adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused".</i></p> <p><i>"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."</i></p>

\*Full policy text should be referred to as table text is a summary only

2.2.2 The East Devon Local Plan (East Devon District Council, 2016) has been reviewed and an excerpt of the relevant ecological policies is provided in Appendix 4.



## 3. Methods & Methodology

### 3.1 General

3.1.1 This EclA has been written with reference to the most recent revision of the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018).

3.1.2 The Proposed Development layout upon which this impact assessment is based can be found at Appendix 4 and will be referred to throughout this document as the Proposed Development.

3.1.3 It is understood that the Proposed Development does not warrant a full Environmental Impact Assessment under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (HMSO, 2017a), and so this EclA has not been prepared to accompany an Environmental Statement.

### 3.2 The Scope of the Assessment

#### *Ecological Features Considered*

3.2.1 The following ecological features have been initially considered within this EclA report prior to any scoping exercise being undertaken:

- Statutorily designated wildlife sites including Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Ramsar sites, Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs), National Nature Reserves (NNRs). Candidate SACs and Proposed SPAs have also been considered.
- Non-statutory wildlife sites (i.e., County Wildlife Site (CWS) and Other Sites of Wildlife Interest (OSWI)).
- Ancient woodland Inventories for England (Natural England, 2022),
- Habitats and Species of Principal Importance published by the Secretary of State in accordance with Section 41 of the Natural Environment and Rural Communities Act 2006 (HMSO, 2006),
- Legally protected species including those listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (HMSO, 2017) and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981),
- Native wild birds and birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981),
- Red Data Book species (JNCC, 2022),
- Birds of Conservation Concern (Stanbury, et al., 2021), and
- Nationally rare and nationally scarce species (JNCC, 2022).

### 3.3 Zone of Influence

3.3.1 The Zone of Influence (Zoi) for each ecological feature considered within this report is detailed within the baseline discussion for each feature. Where impacts extend beyond the boundary of the Site (as delineated at Appendices 1 and 2) rationale for this has been provided.



### 3.4 Desk Study

#### ***Biological Records and Rationale***

- 3.4.1 As part of the PEA which fed into this EclA, a desk study was carried out to gather background ecological data. Records were obtained from Devon Biodiversity Records Centre (Devon Biodiversity Records Centre, 2021) on 28 February 2021 for protected, notable and invasive species, as well as statutory and non-statutory wildlife sites within a 1km radius of the approximate centre of the Site.
- 3.4.2 A 1km data search was considered sufficient in this instance due to the relatively small-scale nature of the Proposed Development, the agricultural management of habitats at the Site, and the limited pathways by which impacts could occur to the wider area, particularly during the operational phase.
- 3.4.3 In addition to biological records, the Multi-Agency Geographic Information for the Countryside (MAGIC) Interactive (DEFRA, 2022) was utilised to search the Site and local area for the following ecological features and information:
- Priority habitats (identified as Priority Habitats on MAGIC Interactive Map, now known as Habitats of Principal Importance (HMSO, 2006))
  - Statutory wildlife sites and SSSI risk impact zone guidance
  - Granted European protected species mitigation licence (EPSML) applications
- 3.4.4 Google Earth Pro (Google, 2022) was utilised to analyse aerial imagery for ecological connectivity to and from the Site, to understand the land use in the local and wider areas, and to review historical imagery to determine the change in habitats over time for the purpose of this impact assessment.
- 3.4.5 Please note that most biological records  $\geq 20$  years old were excluded from the PEA as it was considered unlikely that they would be pertinent to the Site at present, this excludes records of plants that were reviewed for the last 30 years.

### 3.5 Field Surveys

- 3.5.1 A UK Habitat Classification (UKHab) survey (comprising the methods detailed below) was carried out on 29th March 2021 by the Principal Author.
- 3.5.2 Weather conditions at the time of the UK Hab survey were sunny and dry. No weather conditions acted as a limitation to the survey. Weather conditions for other ecological surveys are discussed in the relevant technical appendix.

#### ***UK Habitat Classification (UKHab) Survey***

- 3.5.3 A UK Habitat Classification (UKHab) Survey (Butcher, 2020) was carried out at the Site and provides a comprehensive habitat classification system for the UK. UKHab enables details in relation to the presence of notable (such as Habitats of Principal Importance) or protected habitats (such as Annex I habitats) to be obtained.
- 3.5.4 The UK Habitat Classification Version 1.1 was used for assessment of the Site, using the *Professional Edition Hierarchy*. Habitats were classified to Level 5 unless otherwise stated.
- 3.5.5 In addition to the UKHab survey, an assessment of the Site for evidence of/suitability for protected/notable species was undertaken. Please note that these surveys are not comprehensive or targeted and are simply intended to allow an informed decision to be made on whether further, more detailed surveys for a particular species or species group are required.



3.5.6 Species of specific interest that were surveyed for include but are not limited to:

- Badger (*Meles meles*),
- Bats (*Chiroptera* spp.),
- Great crested newt (*Triturus cristatus*) (GCN) and other amphibians,
- Hedgehog (*Erinaceus europaeus*),
- Protected/notable invertebrates,
- Hazel dormouse,
- Reptiles,
- Otter (*Lutra lutra*),
- Water vole (*Arvicola amphibius*),
- White-clawed crayfish (*Austropotamobius pallipes*),
- Wild birds, and
- Protected/notable plants.

3.5.7 Habitats at the Site were identified and mapped; they are illustrated on the UK Habitat Classification Plan in Appendix 2. Where appropriate, target notes have been used to identify areas on the plan that require further detail, and this has been included in the report.

3.5.8 Plant names (common and scientific) within this report follow 'New Flora of the British Isles' (Stace, 2010).

### **Bat Preliminary Roost Assessment ('PRA')**

- 3.5.9 The overall aims and objectives of the PRA were to determine the suitability of buildings and trees at the Site for their suitability to support roosting bats.
- 3.5.10 Methods employed for the PRA included an external assessment of all buildings and trees at the Site peripheries by a Class 2 bat licensed ecologist (the Principal Author). Trees were assessed from ground-level. No climbing inspections were necessary as all potential roost features could be checked with an endoscope and torch at ground level.
- 3.5.11 Building and trees at the Site were assessed for their suitability to support roosting bats on the scale provided within Table 3 below.



**Table 3. Bat Roost Suitability Descriptions (taken from Collins, 2016)**

Suitability	Description of Roosting Habitats
<b>Confirmed Presence</b>	Presence of roosting bats within the tree confirmed by the survey.
<b>High</b>	A 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.
<b>Moderate</b>	A 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.
<b>Low</b>	A 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 and/or suitable surrounding habitat to be used on a regular basis or by a larger number of bats (i.e., unlikely to be suitable for maternity or hibernation).
<b>Negligible</b>	Trees that appear unsuitable for roosting bats due to a clear lack of roosting spaces such as voids, small crevices etc. and/or absence of suitable access points such as lifted bark, cracked limbs etc.

**Reptile Presence/ Likely Absence Survey**

3.5.12 For full details of the methodology and results of the reptile survey please refer to Appendix 5.

**Great Crested Newt eDNA and Presence/ Likely Absence Survey**

3.5.13 For full details of the methodology and results of the GCN surveys, please refer to Appendix 6.

**Bat Transect Surveys**

3.5.14 For full details of the methodology and results of the bat transect surveys please refer to Appendices 7-9.

**Bat emergence/re-entry surveys**

3.5.15 For full details on the methodology and results of the bat emergence/ re-entry surveys please refer to Appendix 10.

**Hazel Dormouse Presence/ Likely Absence Survey**

3.5.16 For full details on the methodology and results of the hazel dormouse survey please refer to Appendix 11.

**3.6 Survey Limitations**

3.6.1 During the month of June, hedgerow trimming and ground vegetation removal took place along the eastern hedgerow. This destroyed several reptile mats and approximately four hazel dormouse nest tubes. This equipment was subsequently replaced, and the presence of dormouse and grass snake (*Natrix helvetica*) were confirmed at the Site, therefore it is not considered to be a significant limitation of the surveys.



### 3.7 Method for Evaluation of Ecological Features

3.7.1 The potential of the Site to support legally protected or notable species during the PEA and subsequently in this assessment was determined through a review of field observations and desk study information.

3.7.2 The likelihood of the occurrence of any protected and/or invasive species is ranked and defined as follows and relies on habitat suitability for the species at the Site as well as an evaluation, in parallel, of desk study data and published guidance/literature which is referenced accordingly:

- **Negligible** – while presence cannot be absolutely discounted, the Site supports very limited or poor-quality habitat for a species or species group. There may be no local records of the species/species group from the data search, and the surrounding habitats are considered unlikely to support wider populations of a species/species group. The Site may also be outside or peripheral to the known natural range of a species/species group.
- **Low** – habitats within the Site are of poor to moderate quality for a given species/species group. There are few or no returns from the data search, but presence cannot be discounted based on the national distribution of the species/species group, the nature of surrounding habitats, habitat fragmentation or recent on-site disturbance, etc.
- **Medium** – habitats within the Site are of moderate quality providing some opportunities for a given species/species group. The desk study reveals the historic local occurrence of the species/species group, and the Site is within the national distribution and with suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, habitat isolation, and/or disturbance
- **High** – habitats within the Site are of high quality for a given species/species group. The desk study provides evidence of local occurrence. The Site may be within/peripheral to a national or regional stronghold and/or has good quality surrounding habitat and good connectivity
- **Confirmed Presence** - presence confirmed from the most recent site survey or by recent, confirmed records.

#### ***Geographical Frame of Reference for Impact Assessment***

3.7.3 The CIEEM EclA guidelines (CIEEM, 2018) state that "*the importance of an ecological feature should be considered within a defined geographical context*" the geographic frame of reference detailed below and adopted for this assessment is based on that detailed within current EclA guidance (CIEEM, 2018):

- International and European
- National (England)
- Regional (Southwest)
- County (Devon)
- District (East Devon)
- Civil Parish (Clyst Honiton)

3.7.4 In respect of foraging and commuting bats, the importance of ecological features at the Site for these behaviours have been assessed based on guidance provided within IEEM [now CIEEM] InPractice Issue no.70 (Wray, Wells, Long, & Mitchell-Jones, 2010) and Bat Mitigation Guidelines (Mitchell-Jones, 2004).



### 3.8 Impact Assessment

- 3.8.1 When describing Impacts and effects to important ecological features (as defined by (CIEEM, 2018)), the following characteristics of impacts and effects have been considered (CIEEM, 2018) where appropriate to the important ecological feature:
- Positive or negative
  - Extent
  - Magnitude
  - Duration
  - Frequency and timing
  - Reversibility
- 3.8.2 An assessment has also been made in respect of cumulative impacts and effects resulting from other known planning applications in the local area that may affect the same ecological receptors as those to be affected by the Proposed Development.
- 3.8.3 An assessment of residual effects has also been made based on current guidelines (CIEEM, 2018).



## 4. Baseline Ecological Conditions and Impact Assessment

### 4.1 General

4.1.1 Assessment of impacts and effects within this section is based on the Proposed Development Layout at Appendix 4 and are made in the absence of mitigation (unless this mitigation is embedded into the design).

### 4.2 Zone of Influence

4.2.1 The Zol for statutory and non-statutory wildlife sites is set at 50m from the Site. This is based on the most likely negative effects arising from pollution occurring during the construction phase of the Proposed Development and such impacts are only likely to occur within 50m of the Site (IAQM, 2014).

4.2.2 It is considered that there will be very limited recreational pressure from the Site during its occupational phase as an industrial estate and it is extremely unlikely that employees at the Site will increase their usage of wildlife sites as a result of the Proposed Development. Employees are also likely to be local to the area, therefore, effects are unlikely to be additional and significant in relation to the baseline.

### 4.3 Statutory Wildlife Sites

#### ***Scoping Following Preliminary Ecological Appraisal***

4.3.1 There are no statutory wildlife sites within 50m of the Site.

#### ***Assessment of Impacts and Effects***

4.3.2 No direct or indirect impacts to statutory wildlife sites are considered likely to arise because of the Proposed Development.

4.3.3 No significant effects to statutory wildlife sites are likely to arise as a result of the Proposed Development.

### 4.4 Non-statutory Wildlife Sites

#### ***Scoping Following Preliminary Ecological Appraisal***

There is one non-statutorily designated wildlife sites within 50m of the Site, this is Exeter Airport Other Sites of Wildlife Interest (OSWI)

#### ***Exeter Airport OSWI***

4.4.1 Exeter Airport OSWI lies immediately adjacent to the northern boundary of the Site. It is designated as a marshy grassland field of c.11.9 ha in size.

#### ***Assessment of Impacts and Effects***

#### ***Exeter Airport OSWI***

4.4.2 The close proximity of Exeter Airport OSWI to the Site means there is potential for this OSWI to be negatively impacted by the Proposed Development, particularly during the construction and clearance phases.

4.4.3 Dust deposition from construction works during the clearance and construction phases of the Proposed Development can suppress floral growth if the impact occurs over a sustained period of time. Dust deposition directly onto the habitat will reduce the ability of plants to photosynthesise, which may create small areas of dieback if a significant amount of dust is generated.

4.4.4 Dust from the soil within the Site could result in nutrient enrichment at the OSWI due to historical



input of fertilisers which may have been used at the Site to increase crop yield.

4.4.5 The Site slopes from west to east towards to the proposed SUDS pond and water runoff during the operational phase of the Proposed Development will be controlled by the proposed drainage and SUDS.

4.4.6 There is a very slight decline in the topography towards the north of the Site therefore, there is the possibility that pollution from surface water runoff may contaminate the water table within the OSWI reducing the quality of the water and soils and therefore temporarily reducing the floral diversity within the OSWI. However, the proposed hedgerow along the northern boundary of the Site (proposed as part of embedded mitigation) is likely to sufficiently prevent surface water runoff into the OSWI to a negligible level.

4.4.7 Dewatering of the OSWI is not likely to occur as a result of the Proposed Development, as the Proposed Development will only result in excavations for foundations, and these will not be sufficiently deep to affect the hydrological processes in the OSWI.

### 4.5 Summary of Significant Effects to Statutory and Non-Statutory Wildlife Sites

4.5.1 There are no statutory wildlife sites within 50m of the Site. Therefore, no direct or indirect impacts to statutory wildlife sites are considered likely to arise because of the Proposed Development.

4.5.2 There is one non-statutorily designated wildlife site within 50m of the Site, this is Exeter Airport OSWI.

4.5.3 In the absence of mitigation, the Proposed Development will result in the following impacts and effects to important habitats (significant effects are in **bold**):

#### ***Exeter Airport OSWI***

- Dust pollution occurring throughout the construction phase is likely to result in a short-term temporary and reversible negative effect which may be **significant up to the county level**.



### 4.6 Habitats

#### **Scoping Following Preliminary Ecological Appraisal**

4.6.1 For a full description of habitats present at the Site please refer to the PEA (Report Reference: 210423 1248 PEA V1). Habitats present within the Site boundary are listed below:

- Arable – not ecologically important,
- Dense scrub– not ecologically important,
- Species poor hedgerow (priority habitat)- ecologically important at the Civil Parish level.
- Species rich hedgerow (qualifies as 'important' under the Hedgerow Regulations (HMSO, 1997) - ecologically important at the Civil Parish level.

#### **Habitats for Further Consideration**

4.6.2 The ecologically important habitats present at the Site, and therefore those that will be subject to further consideration within this assessment are:

- Species poor hedgerow (priority habitat)- ecologically important at the Civil Parish level.
- Species rich hedgerow (qualifies as 'important' under the Hedgerow Regulations (HMSO, 1997) - ecologically important at the Civil Parish level.

4.6.3 Habitats at the Site that are not detailed within paragraph 4.6.2 are not considered to be ecologically important and therefore do not warrant further consideration.

4.6.4 The baseline ecological conditions and assessment of the likely impacts and effects for these habitats are discussed below.

#### **Hedgerows (both species poor hedgerow (priority habitat) and species rich hedgerow)**

##### *Baseline*

4.6.5 The Site is bordered to the south, east and west by hedgerows.

4.6.6 The hedgerow located along the southern boundary of the Site was dominated by blackthorn (*Prunus spinosa*) and common hawthorn (*Crataegus monogyna*) with bramble growth throughout the hedgerow. The hedge has been repeatedly cut to a height of 1m. Within the ground flora was common hogweed (*Heracleum sphondylium*), lords and ladies (*Arum maculatum*), hemlock (*Conium maculatum*), nettle (*Urtica dioica*) and lesser celandine (*Ficaria verna*).

4.6.7 There was an intact hedgerow framing the eastern boundary to the south of the Site, east of the adjacent ditch network. It has been historically managed in parts and cut back by the adjoining landowner. The hedgerow was dominated by blackthorn, hawthorn, English elm (*Ulmus procera*) and goat willow (*Salix caprea*). The ground flora comprised, bramble (*Rubus fruticosus agg.*), hemlock water dropwort (*Oenanthe crocata*) and common hogweed.

4.6.8 The northern section of the eastern hedgerow was defunct with large gaps over 2m wide.

4.6.9 Along the northeast of the Site were two hedgerows running parallel to each other creating a hedgerow lined corridor. There was approximately 3m between the two hedgerows.

4.6.10 Along the eastern elevation of the Site the hedgerow is associated with a field drainage ditch which greatly fluctuated in water depth throughout the year.

4.6.11 To the northeast of the Site the hedgerow is associated with a steep-sided ditch that held stagnant water at the time of survey.

4.6.12 The western hedgerow was a species rich intact hedgerow dominated by blackthorn, hawthorn,



elder (*Sambucus nigra*), pedunculate oak (*Quercus robur*), English elm, spindle (*Euonymus europaeus*) and goat willow (*Salix caprea*) with bramble, ivy (*Hedera helix*), common hogweed, lords and ladies, nettle, cleavers (*Galium aparine*), montbretia (*Crococsmia x crocosmiiflora*), ground ivy (*Glechoma hederacea*), primrose (*Primula vulgaris*) and escapee daffodil (*Narcissus spp.*) within the ground flora.

- 4.6.13 There are some mature trees within the hedgerow comprising common ash (*Fraxinus excelsior*), oak, goat willow and field maple (*Acer campestre*).
- 4.6.14 The western hedgerow qualifies as 'important' under the Hedgerow Regulations (HMSO, 1997).
- 4.6.15 All hedgerows, that are 20m in length and have at least one woody species, are Habitats of Principal Importance in England under Section 41 of the NERC Act (HMSO, 2006). Therefore, all the hedgerows at the Site qualify as **Habitats of Principal Importance and are ecologically important up to the Civil Parish level** because they provide some limited connectivity on/off Site. Although there is no obvious ecological connectivity provided by these hedgerows to areas of woodland or other areas of high ecological value, the hedgerows provide the most structural and botanical diversity at the Site.

### *Assessment of Impacts and Effects*

- 4.6.16 The assessment of impacts and effects are made in the absence of mitigation (unless this mitigation is embedded into the design).
- 4.6.17 In the absence of appropriate mitigation, the Proposed Development may result in the direct compaction of root systems of the hedgerows and mature trees due to movement of plant machinery/ vehicles, resulting in eventual deterioration and death of affected hedgerow(s). This would result in a long-term reversible negative effect, significant up to the Civil Parish level.
- 4.6.18 Direct contamination of hedgerow and hedgerow soils resulting in disease/death of the entire hedgerow due to chemical spillage may occur. This would result in a medium-long term reversible negative effect, significant up to the Civil Parish level.
- 4.6.19 Direct removal of approximately 0.09km of the southern hedgerow to facilitate the construction of the access road into the Site, will result in a temporary negative, not significant effect. This is reversible and short-term as an equal length of hedgerow will be planted to infill the current access is; so the overall effect in the long-term will be a neutral effect.
- 4.6.20 Dust deposition from construction to the hedgerow (defined as low sensitivity receptors (IAQM, 2014)) will result in a temporary negative not significant effect due to temporary suppression of growth of the affected hedgerow(s).
- 4.6.21 Montbretia is listed as an invasive species on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (HMSO, 1981). It's presence at the Site does not result in a significant ecological effect in itself. This species spreads via rhizomes, and there is potential for spread of the species into the wild if movement of plant machinery and soil is not strictly controlled. It is difficult to accurately estimate the potential effect of spread into the wild from the Site and this depends on the ecological importance of the Site which is colonised.



### 4.7 Summary of Impacts and Effects to Habitats

4.7.1 In the absence of mitigation, the Proposed Development will result in the following impacts and effects to important habitats (significant effects are in **bold**):

#### ***Hedgerow (both species poor hedgerow (priority habitat) and species rich hedgerow)***

- Long-term, reversible, negative effect, **significant up to the Civil Parish level** due to movement of plant machinery/vehicles causing direct compaction of roots.
- Medium-long term, reversible, negative effect, **significant up to the Civil Parish level** due to contamination of hedgerow and hedgerow soils from chemical spillage.
- Temporary negative not-significant effect dust deposition to the hedgerow,
- Temporary short-term negative, not significant effect due to loss of 0.09km of intact species poor hedgerow to facilitate the construction of access road. Reversible in the short-term following planting and establishment of the current hedgerow gap at the existing access location.

### 4.8 Species Groups

#### ***Scoping Following Preliminary Ecological Appraisal***

4.8.1 The following species groups have been scoped **out** of further assessment following the results of the PEA (Report Reference: 210423 1248 PEA V1), and significant effects to these species groups are not considered likely to arise as a result of the Proposed Development:

- Badgers
- Protected/notable invertebrates,
- Protected/notable plant species,
- Otter,
- White-clawed crayfish,
- Freshwater fish, and
- Marine and coastal flora and fauna. and
- Veteran/ancient trees.

4.8.2 The species groups listed above will not be considered further within this assessment.

4.8.3 Potential impacts to the following species groups could not be ruled out following completion of the PEA:

- Reptiles,
- GCN,
- Roosting bats,
- Commuting and foraging bats,
- Hazel dormouse,
- Water vole,



- Important assemblages of farmland birds
- Hedgehog, and
- Nesting birds

- 4.8.4 During the course of the further surveys, it became apparent that the Site was not suitable for farmland birds. The field was still actively managed as an arable field which was harvested and ploughed during the survey season therefore, the Site has negligible potential to support important assemblages for farmland birds and these species are likely to be absent from the Site. **No significant effects to important farmland bird assemblages are considered likely to arise as a result of the Proposed Development due to their likely absence from the Site.**
- 4.8.5 During the course of the further surveys, it became apparent that the Site was not suitable for water vole. The ditch (located off-site adjacent to the eastern boundary) became completely shaded by dense bankside vegetation greatly reducing the suitability of the ditch for water vole, therefore, water vole are likely to be absent from the Site. **No significant effects to water vole are considered likely to arise as a result of the Proposed Development due to their likely absence from the Site.**
- 4.8.6 Further surveys for water voles and farmland birds were therefore not carried out and these species were scoped out from further assessment.
- 4.8.7 Further surveys were carried out for reptiles, GCN, roosting bats, commuting and foraging bats and hazel dormouse.
- 4.8.8 Technical appendices have been provided in this report detailing the methods and results of further protected species surveys undertaken at the Site. Technical appendices are provided as follows:
- Appendix 5 – Reptile survey results
  - Appendix 6 – GCN survey results
  - Appendix 7 – Bat Transect Survey results
  - Appendix 10 – Bat Emergence / Re-entry Survey Results
  - Appendix 11- Hazel dormouse Presence/ Likely Absence survey results.
- 4.8.9 Following the GCN eDNA survey and first presence/likely absence survey which yielded no observations/confirmation of GCN within the Site, GCN have subsequently been scoped out of further assessment within this report and **no significant effects to GCN are considered likely to arise as a result of the Proposed Development due to their likely absence from the Site.**
- 4.8.10 Following the bat emergence/ likely absence surveys which yielded no observations of bats emerging from or returning to the pill box at the Site, roosting bats have subsequently been scoped out of further assessment within this report and **no significant effects to roosting bats are considered likely to arise as a result of the Proposed Development due to their likely absence from the Site.**



4.8.11 Following the completion of the further protected species surveys, the following species will be considered further within this assessment:

- Reptiles,
- Bats (foraging and commuting),
- Hazel dormouse,
- Nesting birds, and
- Hedgehog.

4.8.12 The baseline ecological conditions for these species and assessment of the likely impacts and effects are discussed below.

### **Reptiles**

#### *Baseline*

- 4.8.13 One record of a slow worm (*Anguis fragilis*) was provided by the local records centre (Devon Biodiversity Records Centre, 2021) within 1km of the Site. The record was located 300m north of the Site, in 2014. No other records of reptiles were provided by the local records centre.
- 4.8.14 The Site supports suitable habitat for reptiles (including slow worm) at the peripheries of the Site, particularly along hedgerows and where trimmed branches have been left in log piles to the northwest of the Site and along the northeast where a pillbox has collapsed creating rubble ideal for basking reptiles.
- 4.8.15 Targeted reptile surveys were carried out to determine the use of the Site by reptile species, details regarding the method, methodology and the comprehensive results for this survey are found at Appendix 5.
- 4.8.16 Grass snake (*Natrix helvetica*) were recorded during the reptile surveys. therefore, grass snake are confirmed to be present at the Site. No other reptile species were recorded at the Site and other reptiles species are therefore considered to be likely absent from the Site.
- 4.8.17 A maximum count of one adult and one juvenile grass snake were recorded within the Site. therefore, a low population of grass snake are present within the Site.
- 4.8.18 A female adult grass snake and a juvenile grass snake were found on separate occasions beneath the same mat, located at the northern extent of the eastern hedgerow, approximately at National Grid reference SY 01044 93556.
- 4.8.19 The presence of juvenile grass snake within the Site also confirms that there is a breeding population within the Site and likely the immediate area.
- 4.8.20 A dilapidated pill box, which has fallen into piles of rubble, is located near the mat where the adult female and juvenile grass snake were recorded. Given the close proximity to a female grass snake and a juvenile grass snake it is possible that the rubble piles were used as an egg-laying location; though this was not confirmed during surveys.
- 4.8.21 One incidental record of an adult grass snake was also recorded on 23rd June 2021 during the hazel dormouse nest tube survey at the Site. The grass snake was recorded within the arable field near the hedgerow along the southern boundary of the Site, located approximately at National Grid reference SY 00857 93265.
- 4.8.22 Grass snake were recorded along the eastern and southern hedgerows at the Site. The hedgerows along the western boundary are also suitable for grass snake and therefore, they are presumed to be using these areas of the Site as well.



### *Assessment of Impacts and Effects*

- 4.8.23 The most suitable habitat for grass snake at the Site is along the interface between the hedgerow habitat and the arable field. The approximate length of the hedgerows at the Site are 0.98km along the eastern, southern and western elevations of the Site. All of the hedgerow habitats will be retained, excepting the temporary loss of a small section of 0.09km along the southern boundary to facilitate the access road into the Site, which will be replanted.
- 4.8.24 The connectivity of the southern hedgerow at the Site is currently partially interrupted due to the presence of an access track. The Proposed Development will result in the creation of a similar size access further to the west of the hedgerow, and the existing access will be planted with hedgerow species to fill in this area of hedgerow in the long-term.
- 4.8.25 On this basis, the Proposed Development will result in short-term temporary not-significant effects to grass snake whilst the infill hedgerow planting establishes, and an overall neutral effect to grass snake on maturity of the hedgerow planting.
- 4.8.26 Furthermore, the removal of the dilapidated pillbox structure could result in removing a potential egg-laying location from the Site meaning that females may have to travel further afield to find suitable egg-laying locations.
- 4.8.27 Additionally, the Site clearance and construction phases of the Proposed Development may lead to direct killing/injury of individual grass snake particularly during the early stages of clearance and construction due to topsoil removal, site regrading and excavation.
- 4.8.28 Due to the low population of grass snake recorded within the Site (and the lack of records for grass snake within 1km of the Site which may suggest grass snake are uncommon within the local area) this could result in significant impacts because loss of even one individual grass snake could have a significant effect on the future viability of the population locally, given that there is likely to be so few breeding adults in the local population.

### ***Bats (commuting and foraging)***

#### *Baseline*

- 4.8.29 The biological records provided several records of bats within 1km of the Site. Species include:
- Common pipistrelle (*Pipistrellus pipistrellus*),
  - Soprano pipistrelle (*P. pygmaeus*),
  - Long-eared bat (*Plecotus spp.*)
  - Noctule (*Nyctalus noctula*), and
  - Serotine (*Eptesicus serotinus*)
- 4.8.30 One roost was confirmed within 1km of the Site, which was a common pipistrelle and long-eared roost located 500m east of the Site within a warehouse, recorded in 2013.
- 4.8.31 No granted European Protected Species Mitigation Licensing Applications with regards to bats were provided on MAGIC map (DEFRA, 2022) within 500km of the Site.
- 4.8.32 To the south and west there is poor ecological connectivity to/from the Site due to the Exeter Airport industrial estate and the A30 motorway which lies to the south of the Site running east to west. Ecological connectivity to the north and east is moderate with habitat links via hedgerows and field ditches connecting habitat to/from the Site.



- 4.8.33 The land use immediately north of the Site is a runway associated within Exeter Airport. The aircraft taking off and landing may act as a deterrent to bats locally through noise, vibration and lighting and could potentially increase mortality in the area through bat strike and barotrauma.
- 4.8.34 Hedgerows along the field boundaries throughout the Site are likely to provide some commuting and foraging habitat for bats in the local area because the Site falls within the Core Sustainance Zones (CSZ) (BCT, 2020) for the common pipistrelle and long-eared roost discussed above. Pipistrelles and long-eared bats will likely forage along the hedgerows rather than the open arable fields.
- 4.8.35 Individual bats from roosts within the local area could be using the hedgerows within the Site to commute and forage away from the roost therefore, targeted bat surveys were carried out to determine the use of the Site by bat species, details regarding the methodology and comprehensive results for this survey are found at Appendices 7 to 9.
- 4.8.36 Bat activity recorded during the spring transect survey was very low. Only low numbers of common pipistrelle were recorded during this survey. All of the calls were associated with the hedgerows along the eastern elevation of the Site.
- 4.8.37 Bat activity recorded during the summer transect survey was moderate. *Myotis sp.*, serotine noctule, common pipistrelle and soprano pipistrelle were all recorded during the survey. The majority of the activity recorded was associated with the hedgerows located at the northeast and northwest of the Site, with a small area of activity noted on the southeast corner of the Site, dominated by common pipistrelle.
- 4.8.38 Bat activity recorded during the autumn transect survey was moderate. *Myotis sp.*, serotine, noctule, common pipistrelle and soprano pipistrelle were all recorded during the survey. All of the calls were associated with the hedgerows along the eastern and western elevation of the Site and to a lesser extent along the southern extent of the Site.
- 4.8.39 Across the three survey periods in spring, summer and autumn static detectors recorded the following species at the Site;
- Common pipistrelle,
  - Soprano pipistrelle,
  - Noctule,
  - Serotine,
  - Barbastelle (*Barbastella barbastellus*), and
  - *Myotis sp.*
- 4.8.40 The majority of the calls recorded on the static detectors were produced by soprano pipistrelles (accounting for 77.27% of the calls recorded on the static detectors). Common pipistrelle accounted for 12.63% of the calls, noctule 7.07%, barbastelle 1.52% and *Myotis sp.* also accounted for 1.52% of the total calls recorded on the static detectors at the Site.
- 4.8.41 The majority of the bat passes were recorded at location 1 (See Appendix 9) along the eastern extent of the Site, near to the wet ditch.

### *Assessment of Impacts and Effects*

- 4.8.1 Whilst the majority of the Site is unlikely to be important for foraging and commuting bats due to its sub-optimal habitat and the survey data indicating that the arable habitat was not being used for foraging, the hedgerow along the southern, eastern and western boundaries do contribute to



a wider network of tree and hedgerow lined fields that extend both north and east of the Site.

- 4.8.2 The Site falls within the Core Sustainance Zone (CSZ) for the common pipistrelle and long-eared roost (if still present) noted above in biological records. The habitats present at the Site are of low suitability for foraging bats and survey data reinforced this initial conclusion.
- 4.8.3 Common pipistrelle generally forages over sympathetically managed pastures and deciduous woodland and long-eared bats are strongly associated with trees, particularly broadleaved woodland with a cluttered understorey (BCT, 2020). None of these habitats are found within the Site. therefore, the Site is unlikely to be important foraging habitat for the nearby roosts.
- 4.8.4 Furthermore, no brown long-eared bat calls/ passes were recorded during any of the targeted bat surveys, suggesting that individuals from the brown long-eared bat roost are not commonly utilising the Site. It must be noted that brown long-eared bats have notoriously 'quiet' calls which may not always be picked up on bat detecting equipment, however, due to the scale and survey effort of the targeted surveys it is considered likely that high numbers of brown long-eared bats would have been detected during the passive monitoring and/ or during the transect surveys if they were utilising the Site.
- 4.8.5 On the basis of survey results to-date, no significant effects regarding the loss of important foraging habitat for known nearby bat roosts are considered likely to arise as a result of the Proposed Development.
- 4.8.6 The hedgerows at the Site are known to be used by low to moderate numbers of commuting and foraging individual bats, primarily soprano pipistrelles.
- 4.8.7 Based on guidance (Wray, Wells, Long, & Mitchell-Jones, 2010) the commuting/foraging routes at the Site have the following levels of ecological importance:
- Small numbers of commuting and foraging soprano, common pipistrelle, serotine, and noctule along boundary hedgerows – Parish level importance.
  - Individual barbastelle commuting and foraging along the eastern boundary hedgerow – County-level importance.
- 4.8.8 Myotis bats were not identified to species-level and so a range of levels of importance have been provided for *Myotis* bats to cater for 'rarer' and 'rarest' species (Wray, Wells, Long, & Mitchell-Jones, 2010). The range of level of importance for *Myotis* species at the Site based on low numbers using the Site for foraging and commuting is therefore between the Parish and County level.
- 4.8.9 Soprano pipistrelles are regarded as a light tolerant species and their behaviours are less likely to be affected by increased lighting levels at the Site as a result of the Proposed Development. Nevertheless, less light tolerate species such as *Myotis sp.*, barbastelle and serotine were also recorded in low numbers during the surveys. Therefore, it is likely that any significant increase in lighting (above 1lux) as a result of the Proposed Development (in both the construction and operational phase of the Proposed Development) may impact these species potentially discouraging them from commuting through the Site.
- 4.8.10 Lighting installed as a result of the Proposed Development will be reduced to no more than 1 lux at the peripheries of the Site, and a buffer from the boundary has been implemented which will further reduce the effects of lighting on hedgerows used by commuting and foraging bats.
- 4.8.11 It must be noted in respect of lighting impacts that the car park adjacent to the western boundary has significant levels of lighting which impact the western boundary. The lux level of these impacts is not known, but lighting impacts were identified during the bat surveys at the Site. There is therefore a baseline level of lighting impacts to this boundary, and this must be taken



into consideration when producing the lighting plan, as lighting levels below 1 lux are not likely achievable based on existing lighting impacts.

4.8.12 The connectivity of the southern hedgerow at the Site is currently partially interrupted due to presence of an access track. The Proposed Development will result in the creation of a similar size access further to the west of the hedgerow, and the existing access will be planted with hedgerow species to fill in this area of hedgerow in the long-term.

4.8.13 On this basis, the works to the southern hedgerow as part of the Proposed Development will result in short-term temporary not-significant effects to commuting bats utilising the southern hedgerow whilst the infill hedgerow planting establishes, and an overall neutral effect to commuting bats on maturity of the hedgerow planting.

### **Hazel Dormouse**

#### *Baseline*

4.8.14 There were no records of hazel dormouse within 1km of the Site returned by the local biological records centre (Devon Biodiversity Records Centre, 2021).

4.8.15 One granted European Protected Species Mitigation Licensing Application with regards to hazel dormouse was provided on MAGIC map (DEFRA, 2022) located 1.1km west of the Site for the destruction of a resting site for dormice between 2014 and 2019. The location of the licence was within the woodland north of and alongside the A30. Roadside woodland provides excellent habitat for dormice and there is some ecological connectivity from the A30 roadside woodland to the Site.

4.8.16 Habitats within the Site are considered sub-optimal for dormice, however, hazel dormice will use hedgerows as dispersal corridors and for foraging and nesting in their own right. The hedgerows on Site also provide some connectivity on and off Site. therefore, it is feasible that known, local populations of dormice could be utilising the hedgerows within the Site. Therefore, targeted hazel dormouse surveys were carried out to determine the use of the Site by hazel dormouse, details regarding the methodology and comprehensive results for this survey are found at Appendix 11.

4.8.17 Hazel dormice nests were recorded within every hedgerow at the Site during the hazel dormouse nest tube surveys. Two individual adult dormouse were also recorded within a nest tube during the October nest tube check. Therefore, hazel dormouse are confirmed to be present within the Site.

#### *Assessment of Impacts and Effects*

4.8.18 The Site clearance and construction phases of the Proposed Development may lead to direct killing/injury of individual hazel dormice, particularly during the clearance of the short section of hedgerow to facilitate the access road into the Site. This would result in a significant negative effect at the Parish level.

4.8.19 The removal of the hedgerow to create the access road into the Site will decrease the sheltering and foraging opportunities for hazel dormice within the Site.

4.8.20 The connectivity of the southern hedgerow at the Site is currently partially interrupted due to presence of an access track. The Proposed Development will result in the creation of a similar size access further to the west of the hedgerow, and the existing access will be planted with hedgerow species to fill in this area of hedgerow in the long-term. On this basis, the Proposed Development will result in short-term temporary not-significant effects to hazel dormouse whilst the infill hedgerow planting establishes, and an overall neutral effect to hazel dormouse on maturity of the hedgerow planting.



- 4.8.21 There is also the potential for disturbance to individual hazel dormice due to Site clearance and construction adjacent to the hedgerows due to increases in noise and lighting from machinery which may lead to the abandonment of nests and/or dormice dispersing from the area. This would result in a temporary negative effect significant at the Parish level.
- 4.8.22 The potential for disturbance to hazel dormice due to increased lighting and noise from cars and lorries (above the baseline at the Site) during the operational phases of the Proposed Development may lead to dormice dispersing from the Site. This would result in a permanent negative effect significant at the Parish level.

### **Nesting Birds**

#### *Baseline*

- 4.8.23 There were two records of notable birds provided by the biological records centre from within 1km of the Site. These include kestrel (*Falco tinnunculus*) and house sparrow (*Passer domesticus*), of which house sparrow is listed as a Species of Principal Importance under the Natural Environment and Rural Communities Act 2006 (HMSO, 2006).
- 4.8.24 Chaffinch (*Fringilla coelebs*), chiffchaff (*Phylloscopus collybita*) and peregrine falcon (*Falco peregrinus*) were recorded during the Site visit (flying over the Site). yellowhammer (*Emberiza citronella*) was also recorded calling adjacent to the Site. There were several defunct birds nests recorded within the hedgerows.
- 4.8.25 The Site supports suitable nesting habitat for wild birds via hedgerows, bramble scrub and associated trees.
- 4.8.26 The arable field is actively managed and throughout 2021 was harvested, ploughed and resown with crop, and is therefore, highly disturbed which significantly reduces the potential for nesting farmland birds to be present within the Site.

#### *Assessment of Impacts and Effects*

- 4.8.27 The removal of the small section of hedgerow to facilitate the access road will result in a negative reversible not-significant effect to nesting birds; however, it could result in a legislative breach if undertaken during the nesting season. The resultant effect of the Proposed Development on nesting wild birds is likely to be negative, not-significant and reversible.

### **Hedgehogs**

#### *Baseline*

- 4.8.28 There were no records of hedgehog within 1km of the Site returned by the local biological records centre.
- 4.8.29 No evidence of hedgehog was recorded during the survey.
- 4.8.30 The Site supports some suitable foraging and sheltering habitat for hedgehog specifically along hedgerows however, large arable fields are generally unsuitable for hedgehogs as they prefer to follow linear features and remain in close proximity to areas of shelter. It is, therefore, unlikely that important populations of hedgehog are present at the Site.

#### *Assessment of Impacts and Effects*

- 4.8.31 The Site clearance phase of construction has the potential to affect hedgehog via direct injury/killing by machinery. This is unlikely to result in a significant adverse effect to hedgehog as hedgehog are unlikely to utilise the tall ruderal habitat for shelter, however clearance of a small area of hedgerow with subsequent replanting may result in a not-significant reversible negative effect to hedgehog population in the local area in the short-term, and a neutral effect in the long-



term.

## 4.9 Summary of Impacts and Resultant Effects to Protected Species

4.9.1 This section provides an overview of the likely impacts and resultant effects to protected species as a result of the Proposed Development in the absence of avoidance, mitigation and compensation measures.

4.9.2 Significant effects have been detailed in bold for ease of reference.

### Reptiles

- Site clearance and construction work leading to direct killing/injury of individual grass snake resulting in a **permanent, negative significant effect at the Civil Parish level**.
- Removal of a small section hedgerow habitat to create the access road into the Site reducing sheltering and foraging opportunities for grass snake within the local area resulting in a permanent, negative not-significant effect.
- Removal of the dilapidated pillbox structure, potentially removing nesting features within the Site, resulting in a permanent, negative not-significant effect.

### Bats

- **A permanent, long term significant effect at the Civil Parish level** to foraging and commuting soprano, common pipistrelle, serotine, and noctule, a **permanent, long term significant effect at the County level** to individual foraging and commuting barbastelle and a **permanent, long term significant effect at the Parish to County level** for *Myotis* bats due to the increase in lighting during both the construction and operational phases of the Proposed Development.
- A permanent, negative, not significant effect to foraging and commuting bats due to the removal of a small section of hedgerow.

### Hazel Dormouse

- The potential for killing or injuring hazel dormice during the clearance of approximately 0.09km of hedgerow habitat to create the access road into the Site causing a **permanent, negative significant effect at the Civil Parish level** and **may potentially result in a breach in legislation**.
- Removal of habitat to create the access road into the Site reducing sheltering and foraging opportunities for hazel dormice within the local area causing a permanent, negative, not significant effect.
- The potential for disturbance to hazel dormice due to Site clearance and construction adjacent to the hedgerows, including increases in noise and lighting causing a temporary negative, not significant effect.
- The potential for disturbance to hazel dormice due to increased lighting and noise from cars and lorries during the operation phases of the Proposed Development causing a **permanent negative significant effect at the Civil Parish level**.



### Nesting Birds

- A permanent negative, not-significant effect to nesting birds will arise due to loss of breeding habitat as a result of the removal of a small section of hedgerow.
- A permanent negative not-significant effect to nesting birds may arise due to injury and/or death of birds, fledglings and/ or eggs due to vegetation clearance at the Site, also resulting in a breach of legislation.

### Hedgehog

- A permanent not significant negative effect to hedgehog as a result of the loss of foraging and sheltering habitat as a result of the removal of a small section of hedgerow.
- The potential for disturbance to hedgehog due to Site clearance and construction adjacent to the hedgerows, including increases in noise and lighting causing a temporary negative not significant effect.
- The potential for disturbance to hedgehog due to increased lighting and noise from cars and lorries during the operation phases of the Proposed Development causing a permanent negative not significant effect.



## 5. Avoidance, Mitigation and Compensation Measures

### 5.1 Overview

5.1.1 To prevent and reduce the likely impacts and resultant effects to non-statutory wildlife sites, important and notable habitats and protected and notable species as a result of the Proposed Development the following avoidance, mitigation and compensation measures will be implemented at the Site.

### 5.2 Non-Statutory Wildlife Sites

#### *Avoidance*

- 5.2.1 General 'good practice' measures outlined within a Construction Environmental Management Plan (CEMP) will be produced for the Site which details the methods of Site clearance and construction, and includes measures to mitigate environmental effects such as noise, vibration, chemical spillage, dust etc.
- 5.2.2 The CEMP as detailed above must also include detailed measures necessary to avoid and control adverse impacts to Exeter Airport OSWI.

#### *Mitigation*

- 5.2.3 The proposed vegetative buffer including hedgerow planting along the northern boundary of the Site (proposed as part of embedded mitigation) is likely to sufficiently prevent the minimal surface water run-off into the OSWI to a negligible level.

#### **Statement of Residual Significant Effects - Non-Statutory Wildlife Sites**

- 5.2.4 No significant adverse effects to important habitats are anticipated as a result of the Proposed Development providing that all avoidance and mitigation detailed above is fully implemented.

### 5.3 Habitats

#### *Avoidance*

- 5.3.1 The majority of hedgerows at the Site will be retained and protected. A vegetative buffer from all hedgerows will be implemented at peripheries of the Site to further reduce the likelihood of direct long-term impacts to hedgerows.
- 5.3.2 To avoid significant root protection area (RPA) incursions, appropriate arboricultural measures will be put in place following BS5837:2012, and all retained trees and hedgerows will be protected throughout construction via the installation of tree protection fencing.
- 5.3.3 All movement of plant machinery will be limited to designated tracks in/out of the Site and to/from working areas. This will limit the disturbance and compaction to those grassland areas that will be retained as part of the Proposed Development and prevent unnecessary tracking throughout the Site.
- 5.3.4 The CEMP, as detailed above, must also include detailed measures necessary to avoid and control adverse impacts to the retained hedgerows at the Site.

#### *Compensation*

- 5.3.5 To compensate for the loss of a small section of hedgerow along the southern boundary to facilitate the proposed access into the Site, the existing gap in the hedgerow for the current access track will be infilled. Species will include appropriate native species which will increase biodiversity at the Site.



### *Enhancement*

- 5.3.6 The Proposed Development will include a number of enhancement to habitats, including:
- The creation of two SUDS ponds at the eastern and western extents of the Site
  - Creation of a native species-rich hedgerow along the northern boundary
  - Significant tree planting at the peripheries of the Site within the vegetative buffer, as well as central to the Site adjacent to buildings and access roads.

### **Statement of Residual Significant Effects – Habitats**

- 5.3.7 Based on the Proposed Development layout, it is not considered likely that there will be significant adverse residual effects to habitats at the Site as a result of the Proposed Development.

## **5.4 Species**

### *General*

- 5.4.1 The CEMP must also detail any reasonable avoidance measures to protect wildlife, including measures relating to potential injury of wildlife during Site clearance and construction (i.e., covering excavations overnight, checking excavations in the morning etc.).
- 5.4.2 The CEMP must also include measures to avoid potential a breach in legislation regarding protected and notable species, including foraging and commuting bats, nesting birds and hedgehog (protection and mitigation of impacts to grass snake and hazel dormice will be dealt with in separate documents). To include but not limited to toolbox talks, suggested timings of work for vegetation clearance activities and/or having an Ecological Clerk of Works (ECoW) present to perform checks for protected/notable animals during Site clearance works.

### **Reptiles**

#### *Mitigation*

- 5.4.3 Due to grass snake being a highly mobile species, and considering the low numbers present at the Site, a capture and translocation regime is not considered to be necessary. Precautionary working measures undertaken under a method statement are considered to be sufficient to reduce risk to a negligible level.
- 5.4.4 A Reptile Method Statement will be required to reduce the likelihood of individual grass snake being injured and/or killed during the Site clearance and construction phases of the Proposed Development, to preclude a breach of legislation.
- 5.4.5 The method statement will include (but is not limited to) the following measures; the phased and directional clearance of the arable crop (if present) at the Site at the time of Site clearance, the installation of temporary drift fencing along the northern and western extents of the Site to ensure that individual grass snake do not re-enter the Site following the directional clearance, hand clearance of rubble where necessary.
- 5.4.6 Any grass snake encountered during the phased, directional clearance will be relocated by hand to the SUDS area at the northeast extent of the Site (which will be designed sympathetically for grass snake).



### *Compensation*

- 5.4.7 To compensate for the loss of suitable 'edge' habitat at the interface of the hedgerows and the arable field, the retained hedgerows will also be buffered within the landscape design, maintaining the 'edge' habitat preferred by grass snakes. The buffer will be seeded with a tussock-forming species-rich grassland mix to provide suitable shelter and foraging opportunities for grass snake.
- 5.4.8 A minimum of two compost heaps will also be provided adjacent to the SUDS area at the northeast extent of the Site to ensure that suitable egg-laying habitat is present for grass snake in the long term.
- 5.4.9 The creation of a new hedgerow along the northern boundary of the Site and the native scrub planting/ thicket planting surrounding the SUDS (which will be sympathetically designed to encourage use by grass snakes) will increase the availability of suitable habitat within the Site.

### **Bats**

#### *Mitigation*

- 5.4.10 A wildlife sensitive lighting strategy must be produced, to avoid lighting impacts to the retained and proposed hedgerows, and to reduce lighting impacts to the northern hedgerow to reduce negative effects to commuting/foraging bats.
- 5.4.11 As part of this strategy, any new lighting (permanent and temporary) must be kept to a minimum, include hoods, be low level and be directed away from the peripheral hedgerows, to avoid light spill and any negative effects to nocturnal wildlife. Lighting must be designed in accordance with the Bat Conservation Trust and Institute of Lighting Professionals guidance (BCT & ILP, 2018)
- 5.4.12 The not significant effect to foraging and commuting bats due to loss of a small section of hedgerow will be compensated for within the Proposed Development via the planting of a new hedgerow along the northern boundary of the Site which will increase connectivity for bat populations within the local area.

#### *Enhancement*

- 5.4.13 The native scrub planting/ thicket planting surrounding the SUDS ponds as well within the vegetative buffer will increase the availability of suitable foraging habitat for bats within the Site and maintain peripheral connectivity in area where bat activity was identified.

### **Hazel Dormice**

#### *Mitigation*

- 5.4.14 A hazel dormouse mitigation licence must be obtained from Natural England before any works starting at the Site that may affect hazel dormouse. Failure to obtain a licence prior to works commencing is likely to result in an offence under wildlife legislation.
- 5.4.15 Mitigation for the Proposed Development is detailed below and is based on the survey results, as well as guidance provided within The Dormouse Conservation Handbook (Bright, Morris, & Mitchell-Jones, 2006).
- 5.4.16 All mitigation detail below will be secured through a Hazel Dormouse Mitigation License application to Natural England but may also be enforced by the Local Planning Authority (LPA) through a planning condition for implementation of mitigation detail in accordance with this report, specifically for the method statement element of the mitigation.
- 5.4.17 This licence may only be granted subject to the following tests having been achieved:



- The development must demonstrate that it is required for reasons of '*over-riding public interest*'.
  - There must be '*no satisfactory alternative*' to the development proposals as submitted, and
  - The proposals must not be detrimental to the '*favourable conservation status*' (FCS) of the species affected (hazel dormouse).
- 5.4.18 The Proposed Development must be undertaken in accordance with the details of a hazel dormouse mitigation licence, as the Proposed Development includes the removal of habitat which is confirmed to be used by hazel dormouse which is legally protected. The mitigation licence, once obtained, will allow works to progress to the Site lawfully.
- 5.4.19 An appropriate scheme of mitigation and compensation for this project comprises the features listed below:
- During construction, noise must be reduced wherever feasibly possible. All efforts should be made to reduce excess noise, particularly when working near the hedgerows and trees. This detail should be secured through a detailed construction method statement.
  - Lighting may only be used where strictly necessary. Under no circumstances will lighting illuminate the hedgerows and trees within the Site, as this would cause increased disturbance to dormice which are mainly active at night. Lighting impacts must avoid hedgerows
  - The Proposed Development must protect the hedgerows within the Site in the long-term by at least a 2m buffer between the hedgerows and any built infrastructure. This is to prevent the degradation of these hedgerows, which would result in the subsequent loss of habitat for dormice at the Site.
  - Hedgerow clearance must take place in either May or late September to avoid disturbance to breeding females and their dependent young and hibernating dormice.
- 5.4.20 The Proposed Development will require approximately 0.09km of hedgerow and trees to be removed to construct the access to the Site. Due to the relatively small amount of vegetation removal required the hedgerow and tree removal should be carried out on the same day or over consecutive days (if required) in the summer (either May or late September).
- 5.4.21 The works are timed to avoid hibernation and the breeding season. Following the current guidance (Bright, Morris, & Mitchell-Jones, 2006), the vegetation will be removed by taking out small amounts each day to allow animals time to move of their own accord into suitable adjacent habitats.
- 5.4.22 All hedgerow, tree and vegetation clearance must be done by hand and should be combined with searches for nests by the Named Ecologist on the mitigation licence or their Accredited Agent.
- 5.4.23 Prior to the clearance commencing a pre-works check, using trained hazel dormice detection dogs or hand search by the Named Ecology or their accredited agent, for nests as part of an Ecological Watching Brief will be undertaken. This will involve a thorough search in and around the hedgerow and vegetation to be removed, including around the base of the vegetation.
- 5.4.24 The vegetation removal will involve an initial cut of trees and hedgerows at a height of between 200mm-500mm, to be undertaken using hand tools only i.e., strimmers and chainsaws.
- 5.4.25 The Named Ecologist or their Accredited Agent will be present on Site to supervise this work.
- 5.4.26 Following this, the stumps will be dug out using a small 3600 excavator and removed from the



Site.

- 5.4.27 No capture or translocation of dormice is proposed.
- 5.4.28 In the highly unlikely event of a dormouse being discovered that has not moved of its own accord into the adjacent habitat during clearance of vegetation, the individual will be captured by hand by a licenced ecologist. After being checked for injuries, any captured animals will be transported immediately to an artificial nest box which will be positioned within suitable retained habitat within the Site.
- 5.4.29 If a dormouse is discovered in a nest, then the nest will also be transported with the animal.
- 5.4.30 If an injured or sick animal is found during work, it will be transported safely in a lined shoebox to a wildlife rehabilitation centre.
- 5.4.31 Given the small area of habitat to be removed and the methodology which will be adopted during clearance the risk of encountering dormice is considered to be low.
- 5.4.32 In the unlikely event that breeding dormice are found, they shall be left undisturbed until such time that the young dormice have become independent of their mother.
- 5.4.33 Vegetation supporting and immediately adjacent to the nests (within 5m) will be retained during this time, and clearance of other vegetation on the Site will only proceed where possible with caution to prevent unnecessary disturbance. Vegetation will not be removed which is likely to result in the isolation of any occupied nests, and a corridor of habitat shall be temporarily retained where necessary to allow animals to move into the permanently retained habitat.
- 5.4.34 If a nest is found it must be appropriately demarcated with a 5m buffer with tape and/ or fencing.

### *Compensation*

- 5.4.35 To compensate for the loss of a small section of hedgerow to facilitate the access road into the Site and to compensate for the presumed slight degradation of the remaining hedgerows and tree lines due to increased lighting at the Site during the operational phase of the development, the Proposed Development will include several compensatory features to improve the Site for hazel dormice, including:
- Planting native shrub species and woodland thicket habitats around the SUDS will increase the availability of foraging and nesting habitat within the Site, and
  - Provision of 10 dormouse nest boxes within the native scrub habitat surrounding the SUDS to increase the availability of nesting sites for dormice within the Site.

### **Nesting Birds**

#### *Avoidance and Mitigation*

- 5.4.36 Removal of a small section of hedgerow at the Site must be undertaken outside of the bird nesting season (generally March to August inclusive) to avoid impacts to nesting birds. If this is not possible, the trees must be checked by the ECoW immediately (within 24 hours) prior to the clearance commencing.

#### *Compensation*

- 5.4.37 The not significant effect to foraging and commuting birds due to the loss of a small section of hedgerow will be compensated for by the enhancement of the retained hedgerow and creation of a new hedgerow along the northern boundary of the Site.



### Hedgehog

#### *Avoidance and Mitigation*

- 5.4.38 The method statement detailed above in paragraph 5.4.1 is considered to be sufficient mitigation to reduce the risk of significant adverse effects to hedgehog to a negligible level during the Site clearance phase.

#### *Compensation*

- 5.4.39 The not significant effect to hedgehog due to loss of a small section of hedgerow will be compensated for by the enhancement of the retained hedgerow and creation of a new hedgerow along the northern boundary of the Site.

#### *Statement of Significant Residual Effects – Protected/ Notable Species*

- 5.4.40 Providing that the recommendations made within the above assessment are implemented in full, no significant residual effects as a result of the Proposed Development are considered likely to occur to protected/notable species from known impacts.

## 5.5 Monitoring

- 5.5.1 General attendance at the Site will be undertaken by the ECoW as required to ensure that measures detailed within this EclA are being undertaken correctly. A log of all works observed by the ECoW will be kept on file and made available to the LPA on request.
- 5.5.2 Specific monitoring requirements will be detailed within the licensing documents for the hazel dormouse mitigation license which will be progressed and submitted to Natural England upon receiving approval of the planning application for the Proposed Development.
- 5.5.3 It is recommended that a Landscape and Ecological Management Plan covering a minimum period of ten years is conditioned as part of any decision notice. This habitat plan must include as a minimum:
- Initial establishment and maintenance of created habitats (i.e., to ensure the successful establishment of proposed hedgerow, native mixed scrub, SUDS planting etc.),
  - Management of the habitats once they have successfully established, with clearly stated aims and objectives,
  - Works schedule for each year,
  - Monitoring requirements for each habitat and timescale for reporting of findings and
  - Monitoring requirements for reptiles (particularly grass snake) and hazel dormice within the Site.

## 6. Cumulative Effects

- 6.1.1 There are no planning applications shown on the Exeter City Council Planning Portal map (Exeter City Council, 2022) within 1km of the Site. Therefore, there are no anticipated cumulative effects to protected sites and protected and/or notable habitats and species.
- 6.1.2 There is anecdotal testimony from a highways contractor that the road directly south of the Site, Westcote Lane, is subject to a road-widening scheme by the local council. The LPA should seek to confirm whether this scheme is taking place and establish whether this scheme may result in any cumulative effects to protected sites and protected and/or notable habitats and species. Potential cumulative effects could occur to hazel dormice as a result of the proposed road widening scheme, however it is not possible to determine the extent of this without further



information.

## 7. Conclusion

- 7.1.1 A CEMP must be compiled for the Site, detailing the measures necessary to avoid and control adverse impacts to Exeter Airport OWSI, as well as general good practice measures to reduce any potential risk to the wider area through ground contamination, polluted water runoff etc. It will also include general best-practice environmental measures and additional measures to avoid a potential breach in legislation regarding protected and notable species, including foraging and commuting bats, nesting birds and hedgehog. The CEMP can be secured via an appropriately worded planning condition.
- 7.1.2 The Proposed Development will not result in adverse effects to statutory or non-statutory wildlife sites, provided that a CEMP is produced and adhered to throughout the clearance and construction phases of the Proposed Development and that a hedgerow is planted along the northern boundary of the Site and a vegetative buffer maintained to reduce any impacts of polluted surface water run-off on the adjacent OWSI to a negligible level.
- 7.1.3 A separate precautionary method statement for reptiles must be compiled for the Site, detailing measures necessary to avoid and reduce adverse impacts to this species. These measures must be secured via an appropriately worded planning condition.
- 7.1.4 A hazel dormouse mitigation license application to Natural England must be progressed and approved prior to any works starting at the Site as part of the Proposed Development.
- 7.1.5 An arboricultural method statement must be produced and fully implemented to ensure the retained trees and hedgerows are appropriately protected throughout the clearance and construction phases of the Proposed Development, this can be secured via an appropriately worded planning condition.
- 7.1.6 A wildlife sensitive lighting strategy must be produced, avoiding lighting impacts to the western boundary hedgerow (taking existing impacts into consideration) and reducing lighting impacts to the northern hedgerow, to minimise adverse effects to commuting/foraging bats. These measures must be secured via an appropriately worded planning condition and designed in accordance with the Bat Conservation Trust and Institute of Lighting Professionals guidance (BCT & ILP, 2018).
- 7.1.7 A Landscape and Ecological Management Plan covering a minimum period of ten years should be conditioned as part of any decision notice to ensure the recommended ecological compensation features are implemented and maintained appropriately.
- 7.1.8 Providing that appropriate avoidance, mitigation, compensation and enhancement measures are secured and fully implemented, no significant residual effects to statutory and non-statutory sites, habitats and/or fauna, including protected species are considered likely to arise as a result of the Proposed Development in respect of known impacts.



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## Appendix 1 – Site Location Plan

Broadclyst Station

Clyst Honiton

Exeter Airport





## Appendix 2 – UK Habitat Plan



Key:

-  Site Boundary
-  Arable -rye grass and clover ley c1b5
-  Dense Scrub - bramble scrub h3c
-  ditch r1e
-  hedgerow (priority habitat) h2a



Date: 21/04/21

Client: Paragon

Project: Land at Exeter Airport

Title: UK HAB Map

Map file reference	Plan No.
210421 1248 ECO V1	E001

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## Appendix 3 – Local Planning Policy Excerpts (East Devon District Council, 2016)

### **Strategy 5 – Environment**

All development proposals will contribute to the delivery of sustainable development, ensure conservation and enhancement of natural historic and built environmental assets, promote ecosystem services and green infrastructure and geodiversity.

Open spaces and areas of biodiversity importance and interest (including internationally, nationally and locally designated sites and also areas otherwise of value) will be protected from damage, and the restoration, enhancement, expansion and linking of these areas to create green networks will be encouraged through a combination of measures to include;

- 1) Maximising opportunities for the creation of green infrastructure and networks in sites allocated for development;
- 2) Creating green networks and corridors to link the urban areas and wider countryside to enable access by all potential users;
- 3) The designation of Local Nature Reserves and County Wildlife Sites;
- 4) Minimising the fragmentation of habitats, creation of new habitats and connection of existing areas to create an ecological network that is identified within the East Devon District Council Local Biodiversity Plan;
- 5) Progress towards delivering the Biodiversity Action Plan targets and Local Nature Reserve Strategy;
- 6) Conservation and enhancement of Sites of Special Scientific Interest (SSSI) in accordance with the Wildlife and Countryside Act. and other statutory and non-statutory nature conservation and wildlife sites and areas of value;
- 7) Making use of and protecting from development areas that are vulnerable to surface water runoff and flooding.
- 8) Working in partnership with neighbouring authorities to implement a consistent and strategic approach to the protection and enhancement of the highest tier of wildlife sites.

New development will incorporate open space and high quality landscaping to provide attractive and desirable natural and built environments for new occupants and wildlife. It will contribute to a network of green spaces and ensure potential adverse impacts on the Exe Estuary and East Devon Pebblebed Heaths European wildlife sites are appropriately mitigated against. Where there is no conflict with biodiversity interests, the enjoyment and use of the natural environment will be encouraged and all proposals should seek to encourage public access to the countryside.



## Appendix 4 – The Proposed Development



**PLATEAU A:**

- Total Plateau Area: 24,859 m<sup>2</sup> / 267,680 ft<sup>2</sup>
- Total Building Area (GIA): 10,120 m<sup>2</sup> / 108,920 ft<sup>2</sup> (40.6%)
- Total Hard and Soft Landscaping: 14,748 m<sup>2</sup> / 158,760 ft<sup>2</sup> (59.4%)

**PLATEAU B:**

- Total Plateau Area: 15,380 m<sup>2</sup> / 165,550 ft<sup>2</sup>
- Total Building Area (GIA): 6,820 m<sup>2</sup> / 63,900 ft<sup>2</sup> (38.6%)
- Total Hard and Soft Landscaping: 8,560 m<sup>2</sup> / 101,650 ft<sup>2</sup> (61.4%)

**PLATEAU C:**

- Total Plateau Area: 4300m<sup>2</sup> / 46,360 ft<sup>2</sup>
- Total Building Area (GIA): 1,477 m<sup>2</sup> / 15,900 ft<sup>2</sup> (34.3%)
- Total Hard and Soft Landscaping: 2823 m<sup>2</sup> / 30,460 ft<sup>2</sup> (65.7%)

Approximate Site Boundary based on HM Land Registry Title Plan ref DNS566252 dated 8 Sept 2017 (exact boundary to be confirmed in due course)



0 7.5m 15m SCALE 1:750

P01: Draft Issue 17.12.2021 GB  
Rev \_\_\_\_\_ Date/Checked \_\_\_\_\_

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Proposed Logistics Development  
Oxenwood Real Estate  
Power Park, Exeter

Issue Purpose: Preliminary  
Drawn by: GB Checked by: JCL  
Scale @ A1: 1:750 Date: Dec'21

Illustrative Masterplan - Option 2

CAD ref: 4424-006-AP-Exeter Dwg no.: 4424-014 P01

Copyright reserved. Dimensions to be checked on site. Discrepancies to be reported before proceeding



## Appendix 5 – Reptile Survey Technical Appendix

### Reptile Survey Rationale

- I. As a result of the PEA, it was noted that the peripheries of the Site, including the hedgerows, offered sheltered conditions favoured by grass snake and other common reptile species.
- II. In the absence of mitigation, it was considered that the Proposed Development could result in direct impacts to reptiles (if present) and therefore potentially breach legislation as a result of injury/killing during the Site clearance and construction phases.
- III. On this basis, presence/likely absence surveys were recommended to determine whether reptiles were present/likely absent from the Site.
- IV. The following paragraphs provide technical information on the methods used during reptile surveys at the Site, as well as an analysis of the results.

### Methods and Methodology

#### *Reptile presence/ likely absence surveys*

- V. The reptile presence/likely absence surveys followed current best practice guidance (Froglife, 1999).
- VI. The reptile surveys comprised seven visits to the Site in total between June and September (optimal months are April, May and September, depending on weather conditions).
- VII. A total of 50 reptile refugia (50cm x 50cm and 50cm x 1m squares of roofing felt) were placed around the peripheries of the Site and were left in situ for two weeks before any checks were undertaken, to allow the mats to 'bed-in' and to allow local reptiles (if present) time to locate the reptile mats within the Site.
- VIII. All seven artificial refugia checks were undertaken during appropriate weather conditions consisting of:
  - Air temperatures between 10-20°C
  - Wind conditions of low to none, and
  - No rain or immediately before the surveys.
- IX. The surveys were carried out by Bryony Jones (an ecologist who is experienced in conducting reptile surveys).

#### *Reptile Population Assessment*

- X. The Froglife Advice Sheet 10 (Froglife, 1999) provide a means of evaluating populations based on maximum adult count obtained by observation and/or under tins (placed at a density of up to 10 per hectare), by one person in one day.
- XI. The maximum adult counts of adder and grass snake recorded at a Site can then be categorised as follows:
  - Low– a maximum count of 5 adult individuals
  - Good – a maximum count of between 5-10 adult individuals
  - Exceptional– maximum counts over 10 adult individuals



- XII. The maximum adult counts of slow worm and common lizard recorded at a Site can then be categorised as follows;
- Low- a maximum count of 5 adult individuals
  - Good- a maximum count of between 5-20 adult individuals
  - Exceptional- maximum counts over 20 adult individuals

**Results**

- XIII. The results of the reptile presence/likely absence surveys, undertaken between June and September 2021, are detailed below.
- XIV. The results of the reptile surveys are detailed within Table 4 below.

**Table 4. Reptile Survey Results**

Survey	Date	Temperature (°C)	Wind (Beaufort)	Precipitation	Species found	Count
0	28/05/2021	N/A - Refugia Installation				
1	10/06/2021	17	2	None	female grass snake	1
2	24/06/2021	20	2	None	None	0
3	20/07/2021	20	0	None	None	0
4	11/08/2021	17	2	None	None	0
5	24/08/2021	15	2	None	juvenile grass snake	1
6	06/09/2021	20	1	None	None	0
7	10/09/2021	19	1	None	None	0

- XV. Grass snake were recorded on two separate occasions during the reptile surveys. One adult female and one juvenile grass snake were recorded.
- XVI. Both the female grass snake and the juvenile grass snake were found on separate occasions beneath the same mat, located at the northern end of the eastern hedgerow, approximately at National Grid reference SY 01044 93556.
- XVII. One incidental record of an adult grass snake was also recorded on 23<sup>rd</sup> June 2021 during a check of the hazel dormouse nest tubes at the Site. The grass snake was recorded within the arable field near the hedgerow along the southern boundary of the Site, located approximately at National Grid reference SY 00857 93265.
- XVIII. No other reptile species were recorded at the Site.



### *Analysis of Results*

- XIX. Grass snake have been identified during the surveys, therefore, grass snake are confirmed to be present at the Site.
- XX. A maximum count of one adult grass snake was recorded within the Site. therefore, a low population of grass snake are present within the Site.
- XXI. The presence of juvenile grass snakes within the Site also confirms that there is a breeding population within the Site.
- XXII. A dilapidated pillbox that has fallen into piles of rubble is located near the mat where the adult female and juvenile grass snakes were recorded is. Given the proximity to a female grass snake and a juvenile grass snake, it is possible that the rubble piles were used as an egg-laying location,
- XXIII. Grass snakes were recorded in two separate locations along the eastern hedgerow and the southern hedgerow at the Site boundary. The hedgerows along the western boundary are also suitable for grass snake and therefore, they are presumed to be using these areas of the Site as well.

### **Recommendations and Conclusions**

- XXIV. A low population of grass snake are present within the Site.
- XXV. Specific mitigation measures will be required to ensure there is no breach in legislation during the Site clearance and construction phases of the Proposed Development.
- XXVI. Specific compensation measures will also be required to ensure the low population of grass snake have suitable habitat available within the Site post-development.



## Appendix 6 – GCN Survey Technical Appendix

### GCN Survey Rationale

- I. As a result of the PEA, it was noted that the Site lies within a Great Crested Newt Consultation Zone and based on the flow chart provided within the Great Crested Newt Consultation Zones – Guidance for Developers document produced by Devon Biodiversity Records Centre (Devon Biodiversity Records Centre, 2021) further surveys were required for GCN based on the presence of suitable habitats within the Site.
- II. Therefore, it was recommended within the PEA that an eDNA survey and GCN presence/ likely absence surveys should be undertaken at the ditch within the Site to establish whether GCN are present or likely absent from the ditch.
- III. The following paragraphs provide technical information on the methods used during GCN surveys at the Site, as well as an analysis of the results.

### Methods and Methodology

#### *GCN presence/likely absence surveys*

- IV. The GCN survey was undertaken following current best practice guidelines (Langton, Beckett, & Foster, 2001).
- V. Specific survey methods used at this Site included:
  - Bottle trapping,
  - Torchlight searching, and
  - Egg searching.
- VI. Bottle trapping involves the use of 2L plastic bottles with the tops cut off, inverted, and placed into the bottle to create a funnel. Traps are set in ponds overnight and collected the following morning with any newts trapped within the bottles recorded to species level and sexed.
- VII. Torch surveys used a million-candlepower torch to record and identify newts within the water body c.1hour after sunset (to ensure GCN had sufficient time to become active). Any GCN found were counted, sexed and recorded.
- VIII. Egg searching involves checking submerged vegetation for the presence of GCN eggs which are distinctively large and off-white. Once GCN eggs have been recorded within a pond, no further egg searching is undertaken to ensure that GCN eggs remaining in the pond have the best potential to fully develop.
- IX. Other amphibian species caught or identified through the above methods were also detailed in the survey results.
- X. Overnight temperatures for all surveys did not drop below 5°C for the surveys; all surveys were undertaken in good weather conditions with no rain (which would have otherwise limited visibility for torch surveys).
- XI. The surveys were carried out by appropriately licensed and experienced surveyors from Richard Green Ecology.  
*eDNA*
- XII. An eDNA survey was carried out in May 2021 prior to the first GCN presence/likely absence survey, in which 20 water samples were taken from the waterbody.
- XIII. The sample was sent to a lab to be analysed for the presence of GCN DNA.



## Results

- XIV. The eDNA results were negative for GCN.
- XV. One presence/likely absence survey was carried out at the same time as collecting the water sample and no GCN (or any other amphibian species) were recorded during this survey.

## Recommendations and Conclusions

- XVI. No GCN or other amphibians were recorded within the ditch at the Site during surveys and therefore, GCN are considered to be likely absent from the Site.
- XVII. No further assessment or mitigation measures for GCN are considered necessary to inform the planning application.



## Appendix 7 – Bat Transect Survey Technical Appendix

### Bat Transect Survey Rationale

- I. As a result of the PEA, it was noted that hedgerows along the field boundaries throughout the Site are likely to provide some commuting and foraging habitat for bats in the local area because the Site falls within the Core Sustainment Zones (CSZ) (BCT, 2020) for the locally known bat roosts.
- II. It was considered that individual bats from roosts within the local area could be using the hedgerows within the Site to commute and forage away from the roost. These hedgerows were not considered to provide good connectivity to areas of high-quality foraging habitat. Therefore, the foraging and commuting suitability of the Site was categorised as low.
- III. In the absence of mitigation, it was considered that the Proposed Development could result in impacts through the removal of the hedgerow or impacts through lighting may cause fragmentation and isolation and could result in a risk of a breach of legislation in respect of commuting and foraging bats from the Proposed Development. On this basis, bat transect surveys of the Site were recommended to determine if and how bats were utilising the habitats within the Site.
- IV. The following paragraphs provide technical information on the methods used during bat transect surveys at the Site, as well as an analysis of the results.

### Methods and Methodology

- V. Following recommendations made within the PEA, bat transect surveys were carried out in spring (May 2021) summer (July 2021) and Autumn (September 2021), along with the supplementary placement of static detectors in two locations around the Site. The surveys followed current best practice guidelines (Bat Conservation Trust, 2016).
- VI. Walked transect surveys were undertaken in May, July and September by experienced consultants at Richard Green Ecology. The Site was walked with an Anabat Walkabout bat detector, recording all bat calls and activity seen and heard to assess the broad use of the Site by bats, specifically recording foraging and commuting areas.
- VII. One transect route was walked at the Site including regular stopping points along the transect route and bat activity was observed in these areas for a 2-minute period. It must also be noted that when bat activity was observed away from the stopping points, the surveyor stopped to observe and record bat behaviour at these locations as well such that bias was not introduced into the survey due to more bats being recorded at stopping points.
- VIII. Observations such as the number of bats, flight direction and behaviour were noted.
- IX. Two static detectors were placed within mature trees within the hedgerows at the eastern and western extent of the Site, for 5 consecutive nights in May, July and September. The objective of this passive monitoring was to compile a species list for the Site. Locations of the two static detectors are shown on Appendix 8.
- X. Subsequent analysis of calls recorded during activity surveys was undertaken using specialist bat sound analysis software.

### Results

#### *Transect Surveys*

- XI. Bat activity recorded during the spring transect survey was very low. Only low numbers of common pipistrelle were recorded during this survey. All of the calls were associated with the hedgerows along the eastern elevation of the Site.
- XII. Bat activity recorded during the summer transect survey was moderate. *Myotis sp.*, serotine (*Eptesicus*



*serotinus*) noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*P.pygmaeus*) were all recorded during the survey. The majority of the activity recorded was associated with the hedgerows located at the northeast and northwest of the Site, with a small area of activity noted on the southeast corner of the Site, dominated by common pipistrelle.

XIII. Bat activity recorded during the autumn transect survey was moderate. *Myotis sp.*, serotine, noctule, common pipistrelle and soprano pipistrelle were all recorded during the survey. All of the calls were associated within the hedgerows along the eastern and western elevation of the Site and to a lesser extent along the southern elevation of the Site.

XIV. Maps of the transect routes, indicating the spatial configuration of the bat activity for each survey are shown at Appendix g.

### *Static Detector Surveys*

XV. Across the three survey periods in spring, summer and autumn species recorded to be using the hedgerows at the Site were;

- Common pipistrelle,
- Soprano pipistrelle,
- Noctule,
- Serotine,
- Barbastelle (*Barbastella barbastellus*), and
- *Myotis sp.*

XVI. The majority of the calls were produced by soprano pipistrelles (accounting for 77.27% of the calls recorded on the static detectors). Common pipistrelle accounting for 12.63% of the calls, noctule 7.07%, barbastelle 1.52% and *Myotis sp.* also accounting for 1.52% of the total calls recorded on the static detectors at the Site.

XVII. The majority of the bat passes were recorded at location 1 (See Appendix g) along the eastern elevation of the Site, near the wet ditch.

### **Analysis of Results**

XVIII. Low numbers of bats are utilising the boundary hedgerows at the Site for commuting and foraging purposes.

XIX. Species recorded at the Site are;

- Common pipistrelle,
- Soprano pipistrelle,
- Noctule,
- Serotine,
- Barbastelle, and
- *Myotis sp.*

XX. The majority of the calls were produced by soprano pipistrelles (accounting for 78%) of the calls recorded on the static detectors.



## Recommendations and Conclusions

- XXI. Low numbers of bats are utilising the boundary hedgerows at the Site for commuting and foraging purposes.
- XXII. Specific mitigation measures will be required to ensure there is no breach in legislation due to disturbance as a result of the Proposed Development.



## Appendix 8- Static Detector Locations

Static Locations- Exeter Airport





## Appendix 9 – Bat Activity Transect Survey Maps

Figure 1. May 2021 bat activity transect map (Richard Green Ecology, 2021a)



# Ecological Impact Assessment (non-EIA)

VERSION: V1 DATE: March 2022  
REF NO: 211124 1248 ECIA V1



Figure 2. July 2021 bat activity transect map (Richard Green Ecology, 2021b)



# Ecological Impact Assessment (non-EIA)

VERSION: V1 DATE: March 2022  
REF NO: 211124 1248 ECIA V1



Figure 3. September 2021 bat activity transect map (Richard Green Ecology, 2021c)





## Appendix 10 – Bat Emergence/ Re-entry Survey Technical Appendix

### Bat emergence/re-entry Survey Rationale

- I. As a result of the PEA, it was noted that the intact pillbox structure had low suitability to support roosting bats.
- II. In the absence of mitigation, it was considered that the Proposed Development could result in direct impacts to bats (if present) within the pillbox structure at the Site and therefore potentially breach legislation as a result of injury/killing during the Site clearance and construction phases. On this basis, a bat emergence/ re-entry survey of the pillbox was recommended to determine whether it was a bat roost.
- III. The following paragraphs provide technical information on the methods used during bat emergence/ re-entry surveys at the Site, as well as an analysis of the results.

### Methods and Methodology

- IV. One bat survey was carried out on the pillbox structure in accordance with good practice survey guidelines (Collins, 2016) on 21<sup>st</sup> June 2021. This was a dusk emergence survey as detailed below.
- V. Two surveyors were positioned to view all elevations of the pillbox structure to observe the emergence or re-entry of any bats that may be roosting within the building.
- VI. The equipment used for the surveys were the PeerSonic and Echo Meter Touch 2 Pro, which record calls in full spectrum in case subsequent analysis is required, however, due to the ease of identification of species recorded, no subsequent call analysis was necessary in this instance.
- VII. The dusk emergence survey was undertaken on 21<sup>st</sup> June 2021. It was led by Hattie Fuller and assisted by Laura Stock BSc (Hons), MSc (Assistant Ecologist):

**Figure 4. Survey personnel and qualifications**

Personnel	Relevant Licences held	Equipment used
Hattie Fuller	Class 2 survey licence for bats (Natural England)	Echo Meter Touch 2 Pro
Laura Stock	N/A	PeerSonic

- VIII. General details on the conditions of the survey are detailed below. Sunset was at 21:30hrs.

**Figure 5. Weather conditions during Dusk survey on 21<sup>st</sup> June 2021.**

Parameter	Start	End
Time	21:15	23:00
Temperature	12°C	11°C
Precipitation (Y/N)	Y (Very light drizzle at the start of the survey)	N
Wind speed (Beaufort scale)	0	1

### Results

#### Roosting Bats

- IX. No bats were observed emerging from the pillbox structure at the Site during the emergence survey.
- X. General observations in respect of foraging and commuting activity are noted separately below.



### *Commuting and Foraging Behaviour*

- XI. Commuting and foraging activity was low during the emergence survey with a commuting common pipistrelle and noctule heard but not seen.

### **Analysis of Results**

- XII. No bats were observed emerging from the pillbox structure during the survey. Based on the survey information to date bats are likely absent from the pillbox structure.

### **Recommendations and Conclusions**

- XIII. No bats were observed emerging from the pillbox structure during the survey and therefore, bats are considered unlikely to be roosting within the pillbox structure at the Site.
- XIV. No further assessment or mitigation measures for roosting bats are considered necessary to inform the planning application.



## Appendix 11 – Hazel dormouse Presence/ Likely Absence Survey Technical Appendix

### Hazel dormouse survey rationale

- I. As a result of the PEA report, one granted European Protected Species Mitigation Licensing Application with regards to hazel dormouse was identified on MAGIC map (DEFRA, 2021) located 1.1km west of the Site for the destruction of a resting site for dormouse between 2014 and 2019. The location of the licence was within the woodland north of and alongside the A30. Roadside woodland provides excellent habitat for dormice and there is some ecological connectivity from the A30 roadside woodland to the Site.
- II. Habitats within the Site are not considered optimal for dormice, but they will use hedgerows as dispersal corridors and for foraging and nesting in their own right. The hedgerows on Site also provide some connectivity on and off Site. therefore, it is feasible that known, local populations of dormice could be utilising the hedgerows within the Site.
- III. In the absence of mitigation, it was considered that the Proposed Development could result in direct impacts to hazel dormice (if present) and therefore potentially breach legislation as a result of injury/killing during the Site clearance and construction phases. On this basis, presence/likely absence surveys were recommended to determine whether hazel dormice were present/likely absent from the Site.
- IV. The following paragraphs provide technical information on the methods used during hazel dormice surveys at the Site, as well as an analysis of the results.

### Methods and Methodology

- V. The hazel dormice surveys comprised 7 visits to the Site in total between May to November, in accordance with the methodology described in the Dormouse Conservation Handbook (Bright, Morris, & Mitchell-Jones, 2006).
- VI. A total of 50 hazel dormice nest tubes were securely placed within the hedgerows which border the Site on the 18<sup>th</sup> May and were left in situ for one month before any checks were undertaken, to allow for dormice (if present) within the hedgerows to find and use the nest tubes, before undertaking checks of the nest tubes.
- VII. The tubes were checked once a month between June and November by the Principal Author, who holds a Natural England survey license for hazel dormice (accompanied by either Laura Carter BSc (*Hons*) or Laura Stock BSc (*Hons*) MSc.)
- VIII. A series of six subsequent monitoring checks were made to the Site. One each visit, all the nest tubes were inspected for the presence of dormice or evidence of occupation by dormice, such as nests. Evidence of other small mammals using the tubes was also recorded.
- IX. The Dormouse Conservation Handbook (Bright, Morris, & Mitchell-Jones, 2006) describes a scoring system for nest tubes surveys which provide an indicator for the thoroughness of the survey. The system is based on an 'index of probability', whereby each month of the year in which dormice are active is assigned a value according to the likelihood of dormice using the nest tubes (and leaving evidence of occupation) in that particular month. Table 6. below shows the value of each month according to the system.



**Table 6. Index of the probability of finding dormice within nest tubes in any one month**

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

- X. Values for individual months are based on the use of 50 nest tubes within the survey area. If the number of tubes is increased, the score for each month increased proportionately. In accordance with this methodology, in order to confidently assume an absence of dormice from a Site, the total search effort score must not be less than 20 points.
- XI. The hazel dormice nest tube surveys were carried out at the Site in June, July, August, September, October and November, therefore, providing an overall search effort score of 20. The results are, therefore, considered to provide a robust indication of dormouse presence/ likely absence in relation to the Site.

**Results**

- XII. The results of the hazel dormouse nest tube surveys are detailed in Table 7. below.

**Table 7. Hazel dormice nest tube Survey Results**

Survey	Date	Dormouse Nest	Notes
N/A	18/05/2021	N/A – nest tube Installation	
1	22/06/2021	N/A	N/A
2	21/07/2021	5 dormouse nests were recorded.	The eastern hedge had been flailed. 1 dead wood mouse was found within a nest tube.
3	23/08/2021	7 dormouse nests were recorded	1 wood mouse in a nest. 1 wood mouse in an old dormouse nest. 3 possible wood mouse nests
4	19/09/2021	1 confirmed dormouse nest. 5 possible dormouse nests.	8 wood mice recorded within nest tubes
5	21/10/2021	8 dormouse nests ( <b>1 nest with 2 dormice present</b> ) 2 old dormice nests	5 other nests 2 wood mice present within 1 nest tube
6	23/11/2021	3 new dormouse nests 5 old dormouse nests	2 unknown nests (probably wood mice) 1 wood mouse found within empty nest tubes (no nest)



- XIII. Hazel dormice nests were recorded during all of the surveys, excepting the first survey of the nest tubes in June.
- XIV. Hazel dormice nests were recorded in all of the hedgerows at the Site boundary.
- XV. Two individual dormice were recorded within a nest tube during the survey in October.

### **Analysis of Results**

- XVI. Hazel dormice have been confirmed to be present at the Site.
- XVII. Hazel dormice nests were recorded in all of the hedgerows at the Site boundary; therefore, dormice are confirmed to be using all of the hedgerows within the Site.
- XVIII. Two individual adult dormice were recorded within the same nest tube during the survey in October, this suggests that dormice are breeding within the Site, as individuals are usually solitary except during the breeding season.
- XIX. Based on best practice guidance (Bright, Morris, & Mitchell-Jones, 2006) spring population densities of dormice within hedgerow habitat is approximately 1.3 per hectare<sup>1</sup>. The total hedgerow habitat within the Site is 0.325 hectares therefore, it is presumed that there is a population of one hazel dormouse within the habitats at the Site.
- XX. However, based on the survey results at least two adult dormice are known to be present within the hedgerows at the Site.

### **Recommendations and Conclusions**

- XXI. Hazel dormice are confirmed to be present within the Site and are presumed to be a breeding population.
- XXII. Specific licensing and mitigation measures will be required to ensure there is no breach in legislation regarding hazel dormice during the Site clearance and construction phases of the Proposed Development.
- XXIII. Specific compensation measures will also be required to ensure the hazel dormice have suitable habitat available within the Site post-development.

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<sup>1</sup> It must be noted that autumn populations i.e., post-breeding are likely to be significantly higher than this.

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