Ecological Impact Assessment (EcIA)

Land at Mercer Road, Horsham

The Ecology Partnership, Thorncroft Manor, Thorncroft Drive, Leatherhead, Surrey KT22 8JB

T +44 (0) 1372 364133 E info@ecologypartnership.com W ecologypartnership.com

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on a site at a later date.

The views and opinions contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Purpose of the Report

1.1 This Ecological Impact Assessment (EcIA) evaluates the effects of the development of land at Mercer Road, Horsham. The results of The Ecology Partnership's surveys and desk study of the site and surrounding land are presented. These findings are assessed against the proposals for residential development on the site in order to:

- Evaluates the baseline interest;
- Identifies and ranks significant impacts;
- Sets out mitigation and compensation measures and the means to secure these;
- Assesses the significance of residual impacts;
- Identifies enhancement measures; and
- Sets out requirements for post-construction monitoring.

Site Context and Description of the project

1.2 Current proposals are for a new housing estate with 304 new dwellings, associated access and landscaping.

1.3 The site is characterised by a number of fields, used as horse paddocks, with associated margins, the site is split into two separate parcels by Mercer Road. It totals c. 14.6ha. The site is situated within a rural setting close to Warnham Railway Station, north of Horsham in West Sussex (central grid reference: TQ 17340 33825).

Figure 1: Approximate location of the redline boundary (red)

Legislation

1.4 The following legislation has been considered in determining the scope of this EcIA.

- The Bern Convention (1979);
- Convention on Biological Diversity (1992)
- The Habitats Directive (1992);
- The Birds Directive (1979);
- Wildlife and Countryside Act (1981 as amended);
- The Natural Environment and Rural Communities (NERC) Act (2006);
- Conservation of Habitats and Species Regulations 2017 (as amended);
- The Protection of Badgers Act 1992;
- The Hedgerow Regulations 1997;
- The Environment Act 2021.

National and Local Planning Policy

1.5 National policy guidance is provided by National Planning Policy Framework (NPPF 2023), which sets out the Government's planning policies for England and how they

should be applied. Section 15 of the document is entitled 'Conserving and Enhancing the Natural Environment'.

1.6 The site falls under the planning control of Horsham District Council and the adopted plan (2015). These policies include the following which are considered relevant to ecology, biodiversity and nature conservation:

- ***Policy 25: The Natural Environment and Landscape Character***
- ***Policy 26: Strategic Countryside Protection***
- ***Policy 31: Green Infrastructure and Biodiversity***
- ***Policy 37: Sustainable Construction***

Wildlife and Countryside Act 1981 (as amended)

1.7 The PEA identified the potential presence within the project's red line of several species or species groups listed on Schedule 5 of the Act, for which the provisions of Section 9 apply, necessitating surveys and assessments to determine presence/absence, location of activity and in some cases estimates of abundance, from which mitigation measures could, if necessary, be devised to comply with the Act.

Natural Environment and Rural Communities Act 2006

1.8 Section 41 (Biodiversity lists and action (England)) of the Act requires the Secretary of State to "*publish a list of living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity* (in England)" and to "*take such step as… reasonably practical to further the conservation… or promote the taking by others of such steps*" for these (Section 41 List) species and habitats.

1.9 The PEA identified the presence of the Section 41 a hedgerow and woodland as well as the potential presence of a number of Section 41 species, including the bats, dormice, breeding birds, reptiles, and great crested newts. Surveys and/or assessments for the species provided information to inform mitigation where appropriate and proportionate, that could be requested by the local planning authority in relation to Section 41, in addition to meeting legislative requirements.

Conservation of Habitats and Species Amendment (EU Exit) Regulations 2019

1.10 The Conservation of Habitats and Species Amendment protects biodiversity through the conservation of natural habitats and species of wild fauna and flora. It outlines the rules for the protection, management and exploitation of such habitats and species.

1.11 European Protected Species (EPS) are protected under this legislation including all UK bat species, great crested newt and dormice. If the development is likely to cause an offence against an EPS which significantly impacts their favourable conservation status; an EPS mitigation licence would be required to permit certain activities that would otherwise be illegal.

1.12 Special Protection Areas (SPAs) are selected to protect one or more rare, threatened or vulnerable bird species listed within this legislation. Special Area of Conservation (SAC) are designated for protecting one or more special habitats and/ or species. Special Protection Areas (SPAs) are selected to protect one or more rare, threatened or vulnerable bird species listed within this legislation. Ramsar sites are wetlands of international importance designated under the Ramsar Convention.

1.13 Development proposals which are likely to have a significant (adverse) effect on the National Site Network in the UK (including Special Areas of Conservation (SAC), Special Protection Areas (SPA) and Ramsar sites) are required to undertaken an Appropriate Assessment.

The Environment Act 2021

1.14 The Environment Bill received Royal Assent on 9th November 2021 and is now enacted as the Environment Act 2021. Part 6 (Nature and Biodiversity) and Schedule 14 of the Environment Act 2021 insert a new section 90A and Schedule 7A into the Town and Country Planning Act 1990 (TCPA), which contain the provisions requiring mandatory biodiversity net gain for development granted planning permission pursuant to the TCPA. These provisions require developments to provide a biodiversity value post-development that exceeds the predevelopment biodiversity value of the onsite habitats by at least 10%.

This was adopted in February 2024 although there are a number of exemptions which may mean that biodiversity net gain is not required. These are listed under government and are as follows:

- Development below a de minimis threshold;
- Householder applications;
- Small scale self-build and custom housebuilding;
- HS2; and
- Biodiversity net gain sites.

2.0 Methodology

Scope of the Assessment

2.1 The zone of influence of the development is defined as:

- The project red line, for effects on designations, habitats and species;
- Adjacent habitat, considered by species, for mobile species with territories or foraging ranges that may overlap the site;
- Designated sites which can be impacted through development activities; and
- Undesignated priority (Section 41) habitats that may be sensitive receptors to increased recreational pressure or other impacts such as surface water pollution.

2.2 The types of features considered in the assessment of effects, to meet legislative and policy requirements, are:

- Designated sites (European, national and local);
- Protected species;
- Habitats and species of principal importance (Section 41 list);
- Hedgerows and woodland, where not of principal importance;
- Invasive species (Schedule 9 of Wildlife and Countryside Act); and
- Habitats, where not of principal importance, that may function as wildlife corridors or stepping stones.

Desktop Study

2.3 A desktop study was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites and an internet-based aerial mapping service (maps.google.co.uk) to understand the habitats present in and around the survey area as well as habitat linkages and features within the wider landscape. Records for the site and local area (up to 2km) were purchased from Sussex Biodiversity Records Centre (SxBRC), on 7th August 2024, for a 2km radius around the site

Field Surveys

Phase 1 Survey / UKHAB and Preliminary Ecological Appraisal (PEA)

2.4 The original 2018 PEA was carried out by The Ecology Partnership. The site was once again assessed on 18th August 2020. An update PEA to support this planning application was undertaken in 24th May 2024. The surveyors identified the habitats present, following the UKHab classification system. The site was surveyed on foot and the existing habitats and land uses were recorded on an appropriately scaled map. The potential for the site to support protected species was also assessed (CIEEM 2017). A second site visit to assess the grassland was undertaken by Chris Jennings BSc (Hons) MSc MCIEEM on 9th August 2024. This was undertaken as several areas of grassland had been heavily grazed during the initial assessment and was used to more accurately assess the grasslands on site.

Protected Species Surveys

2.5 The desktop study and habitat survey identified that the habitats which had the potential to support bats, GCNs, dormice, breeding birds, and reptiles. Further surveys were recommended and a summary of the survey work completed is outlined in Table 1 below. Detailed survey methodologies are provided in the appended reports.

Table 1: Species surveys undertaken in 2018, 2020 and 2024

Faunal Group	Survey Methodology	Date of Surveys	Guidance
Bats – foraging and commuting	Dusk emergence surveys commenced at least 15 minutes before sunset until 2 hours after sunset, during which time, bats were identified and recorded. These	Site initially assessed on the **11th April 2017** and again **24th May 2024**	Bat Surveys – Good Practice Guidelines 3rd / 4th edition (Collins 2016 / 2023).

Faunal Group	Survey Methodology	Date of Surveys	Guidance
	surveyors were undertaken during suitable weather conditions, when conditions are relatively dry and mild with little/no wind. Further dusk activity transect surveys, including Anabat remote detector recording, were carried out on site, at a frequency of one per survey.	Further dusk activity transect surveys conducted: **24th July, 31st August & 25th August 2017, 10th May & 18th June 2018, 28th July, 19th August & 18th September 2020, 29th May, 2nd July and 4th September 2024.**	
Bats – Remote Recording Surveys	During the PEA, the sites potential to be used by foraging and/or commuting bats was assessed. The site was considered to be of moderate habitat suitability and therefore further surveys were conducted to understand how bats were using the site. Likely flight paths were identified across the site, along which locations to place the anabats were selected. The anabats were then deployed and were left on site for five consecutive nights and then collected in for analysis.	Four Anabat static detectors were deployed on site for five consecutive nights between the **25th – 29th August 2017, 26th – 30 September 2017, 11th – 15th May 2018, 19th – 23rd June 2018, 28th July – 1st August 2020, 10th – 14th August 2020, 19th – 23rd September 2020, 30th May – 3rd June 2024, 3rd – 7th July 2024 & 5th – 9th September 2024.**	Bat Surveys – Good Practice Guidelines 3rd / 4th edition (Collins 2016 / 2023).
Bats – Tree Inspection	As part of the PEA, any trees likely to be removed by the scheme and supporting particular features likely to be of value to bats, such as splits, cracks, rot holes, coverings of ivy, peeling bark or similar, were recorded. The potential for the trees to support roosting bats has been assessed in accordance with the criteria set out in the Bat Conservation Trust guidelines (Collins, 2016)	**11th April 2017 & 18th August 2020 24th May 2024**	Bat Surveys – Good Practice Guidelines 3rd edition (Collins 2016).
[redacted]	[redacted]	[redacted]	[redacted]
Great Crested Newts (GCN) HSI	Four waterbodies present on site with a further three waterbodies with no dispersal barrier and within 250m buffer of the site were subject to a habitat suitability index carried out on them.	**11th April 2017 and 18th August 2020**	Oldham at al. 2000
Great Crested	The ponds within the site as well as one of the off-site ponds had water samples	**13th July 2017 & 24th August 2024**	Following protocol stated in DEFRA WC1067

Faunal Group	Survey Methodology	Date of Surveys	Guidance
Newts (GCN) eDNA	taken from them and sent off for analysis.		
Reptiles	During the PEA and desktop study the site was deemed suitable for reptiles due to presence of suitable habitats and records of reptiles in the neighbouring land parcel. Artificial refugia (roofing felt) were placed within suitable habitat across the site. A total of seven survey visits were made to the site to check the refugia for the presence of reptiles in suitable weather conditions. Other refugia, such as log piles, were searched for evidence of reptiles.	Site initially assessed on the **11th April 2017** and again **18th August 2020.** Artificial refugia set up date: **26th March 2024.** Reptile presence/absence survey visit dates: **11th, 16th, 23rd April, 1st, 9th, 15th and 24th May 2024.**	Herpetofauna Workers Manual (Gent and Gibson 1998).
Hazel dormice	As part of the PEA, the site was assessed hazel dormice. Subsequent presence / absence surveys were undertaken	Assessed during the PEA on the **11th April 2017, 18th August 2020** and again **24th May 2024.** Nest tube installation: **13th June 2017** A total of 84 dormouse tubes established. **24th July 2017** **24th August 2017** **27th September 2017** **25th October 2017** **28th November 2017** **5th April 2018** **16th May 2018** **25th June 2018** Nest tube installation **26th March 2024** A total of 92 dormouse tubes established **23rd April 2024** **24th May 2024** **25th June 2024** **30th July 2024** **27th August 2024** **24th September 2024** **22nd October 2024**	Dormouse Conservation Handbook - 2nd edition (Bright *et al.* 2006)

Faunal Group	Survey Methodology	Date of Surveys	Guidance
Other Species – Water Vole, Stag Beetle and Hedgehog	As part of the PEA, the site was assessed for its suitability for water voles, and hazel dormice.	Assessed during the PEA on the **11th April 2017, 18th August 2020** and again **24th May 2024. During river corridor assessment 9th August 2024 (Water vole)**	Water Vole Conservation Handbook (Strachan *et al.*, 2011). Ecology of the European Otter (Chanin, 2003).
Nesting and breeding birds	As part of the PEA, the site was assessed for its potential to support nesting birds. Only the hedgerows, treelines and woodland boundaries retained suitability for nesting birds, along with the disused buildings and structures. A breeding bird survey was undertaken over two dates.	Assessed during the PEA in **2017, 2020 & 2024.** Two breeding bird surveys conducted on **6th April & 4th May 2024.**	British Trust for Ornithology (BTO) Breeding Birds Atlas method (Balmer *et al.* 2013)

Ecological Assessment Methodology

2.6 This assessment has been carried out with reference to 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (CIEEM 2018). The guidelines help in determining baseline conditions, what features are important, what impacts are significant and how to apply the mitigation hierarchy. The sequential application of the guidelines to this assessment are outlined in the following paragraphs.

Baseline condition

2.7 The baseline condition of the site is the situation documented in this report (section 3) from data (field surveys and desk study) gathered during 2017-2018, 2020 and in 2024 plus any relevant modifications within or outside the red line within the zones of influence.

Important ecological features

2.8 Important ecological features are those for which the decision maker (LPA or other regulator) needs the EcIA to help to assess the effects (negative, neutral or positive) and to guide the determination of the planning application. Important features are therefore generally defined by whether legislation or policy requires their consideration. For example, a European site within the zone of influence of the development is important and needs an assessment of effects. Similarly, at different levels, any legally protected

species and any features such as wildlife corridors and section 41 species, with national or local policy support, are important features. Features that cannot be referenced to legislation and policy are generally not important and the next step of the EcIA (impact assessment) is not necessary. There may occasionally be situations where professional judgement and local expertise is relevant in defining local rarity as important, regardless of a lack of current legislative and planning support.

2.9 The CIEEM guidelines (2018) avoid rigid guidance on the levels of importance, which is often required within EIA, along with the level of magnitude of an effect, as one axis of an impact matrix. Sometimes a label of European, national or local importance may be obvious, for European sites, SSSIs and Local Wildlife Sites respectively. It is often less clear whether a small population of a Section 41 priority species or small extent of a Section 41 habitat should be of local or greater or less importance, as this may depend on data that does not exist on the distribution and abundance of the feature. Legally protected species can be important solely because of the need to meet legislation, or because they are also a feature of a County Wildlife Site or target of a local Biodiversity Action Plan. In these cases, the same species could warrant different levels of importance, possibly with different implications for what is reasonable mitigation or compensation, beyond legislative compliance.

2.10 This report follows CIEEM guidelines (2018) in not forcing features into a level of importance, but using ranked importance where possible. Sites are given three levels, corresponding to their legislative and planning support: European, National and Local. Habitats and species, where not a qualifying feature of the hierarchy of sites, are simply referenced to the planning policy or legislation that supports their importance and where possible assessed from the extent, range or population size within zone of influence in relation to the extent, range or population size in the relevant administrative unit, for example LPA boundary or BAP boundary.

Impact assessment

2.11 According to CIEEM guidelines (2018), the only essential purpose of impact assessment in EcIA is: "*to assess and report significant residual effects that remain after mitigation measures*

have been taken into account. However, it is good practice for the EcIA to make clear both the potential significant effects without mitigation and the residual significant effects following mitigation".

2.12 Impact assessment is required for each feature determined as important and not for other features. CIEEM guidelines (2018) advise that each impact assessment should consider, if possible, the different stages of a development (construction, operation and decommissioning) and that it should be characterised by the following:

- Positive or negative - whether the impact leads to an adverse, beneficial or neutral effect;
- Extent – the spatial area over which the impact occurs;
- Magnitude – change in, for example, the amount of habitat or the size of population;
- Duration – both in relation to the life cycle of the ecological feature and of the life of the project;
- Frequency and timing – for example, the number of disturbance incidents to birds and their timing in relation to the breeding cycle; and
- Reversibility – if and at what timescale recovery is possible.

2.13 As with the assessment of importance, CIEEM guidelines (2018) do not encourage a classification of the magnitude of impacts on a scale of severity. Rather, the significance of each impact should be assessed as the quantity of a feature of importance impacted; for example, residual loss of 5% of the extent of woodland within a Local Wildlife Site or gain of 10% in the extent of a section 41 habitat (hedgerows) on the site.

Avoidance, mitigation, compensation and enhancement

2.14 CIEEM guidance (2018) recommends a mitigation hierarchy. Once important features and significant impacts are identified, the project design should be modified where possible to avoid significant impacts. If avoidance is not possible, mitigation then compensation should be sequentially considered. A residual impact is an impact that remains after mitigation but is documented here both before and after compensation, as mitigation, particularly if embedded in the design, is assumed to be delivered without input from the LPA or other regulator, whilst compensation may require planning conditions and have

some uncertainty on which the regulator should deliberate. Enhancement is an activity that results in a net gain in biodiversity, generally for an important feature, "over and above" anything required for mitigation or compensation. The terms mitigation and compensation are not always clearly defined and there is difference of opinion on their definitions. This report follows the Information Paper on the subject developed in consultation with Natural England for HS2 (2017), from which this quote and illustration are taken:

"*A clear distinction is made between the use of the terms 'mitigation' and 'compensation' reflecting the habitual use in ecological impact assessment of 'mitigation' to mean 'measures taken to avoid or reduce negative impacts', as separate from 'compensation' meaning 'measures taken to make up for the loss of, or permanent damage to, biological resources through the provision of replacement areas*"

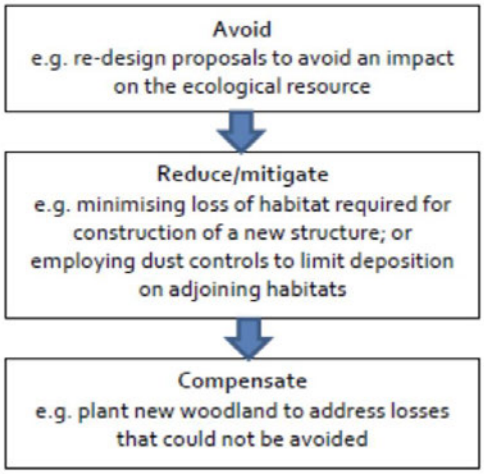

Figure 2: The mitigation hierarchy (from HS2 2017)

Limitations of the Assessment

2.15 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment. The site was visited over the period of several site visits, as such seasonal variations cannot be fully observed and potentially only a selection of all species that potentially occur within the site have been recorded. Therefore, the survey provides a general assessment of potential nature conservation value of the site

and does not include a definitive plant species list. However, the survey area was visited on a number of occasions over the optimal period, ensuring that detailed habitat information could be gathered. It is therefore considered that the survey work has allowed a robust assessment of habitats and botanical interest across the site.

2.16 The specific protected species surveys were undertaken at the appropriate time of year and during suitable weather conditions to an appropriate level of survey effort. Any specific limitations are noted in the relevant sections above or discussed in the results section.

3.0 Baseline Ecological Conditions

Biological Records from SxBRC

3.1 A 2km radius data search was requested from Sussex Biodiversity Records Centre (SxBRC) as part of a previous assessment. Notable protected species from this search are outlined below (Table 2). Only records of species which are suited to the habitats present on site and recorded within the last ten years have been included.

Table 2: Notable species records within 2km of the site in the last 10 years

Species	Status	Closest record to site	Most recent record
Amphibians			
Common Toad *Bufo bufo*	Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.5a; NERC S41; UK BAP Priority	c. 1km south (12/10/2017)	15/06/2023
Natterjack Toad *Epidalea colamita*	Habitat directive A4; Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.4b/ s9.4c/ s9.5a; NERC S41	c. 2.2km southwest (01/04/2021)	01/04/2021
Pool frog *Pelophylax lessonae*	Habitat Directive A4; Hab reg Schedule 2; Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.4b/s9.4c; NERC S41	c. 450m northeast (14/08/2017)	12/06/2021
Great Crested Newt *Triturus crisatus*	Habitat Directive A2 NP, A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Schedule 5 s9.4b/s9.4c/ s9.5a, NERC S41	c. 800m north (10/05/2017)	05/05/2021
Bony Fish			

European Eel *Anguilla Anguilla*	NERC S41	c. 1.3km south (01/08/2016)	01/08/2016
Bullhead *Cottus gobio*	Habitat Directive A2 NP	c. 1.3km south (29/03/2015)	29/03/2015
Beetles			
Stag Beetle *Lucanus cervus*	Habitat Directive A2 NP; Wildlife and Countryside Act (1981as amended) Schedule 5 s9.5a; NERC S41	c. 1.1km south (16/06/2016)	11/07/2021
Terrestrial Mammals (excl. bats)			
West European Hedgehog *Erinaceus europaeus*	NERC S41	c. 300m south (28/06/2023)	28/06/2023
Harvest Mouse *Micromys minutus*	NERC S41	c. 650m south (08/11/2015)	02/11/2023
Hazel Dormouse *Muscardinus avellanarius*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5, 9.4b/c; NERC S41	c. 2km east (10/10/2014)	10/10/2014
Reptiles			
Slow Worm *Anguis fragilis*	Wildlife and Countryside Act (1981 as amended) Sch 5 s9.1; NERC S41	c. 800m south (01/06/2017)	14/09/2023
Grass Snake *Natrix Helvetica*	Wildlife and Countryside Act (1981 as amended) Sch 5 s9.1; NERC S41	c. 1.3km south (25/09/2023)	25/09/2023
Common Lizard *Zootoca vivipara*	Wildlife and Countryside Act (1981 as amended) Sch 5 s9.1; NERC S41	c.1.3km south (16/09/2023)	16/09/2023
Bats			
Serotine *Eptesicus serotinus*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c	c. 1.3km south (30/05/2023)	04/01/2024
Myotis Bat *Myotis*	Habitat Directive A2 NP; Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c; NERC S41	c. 2.3km northwest (17/09/2019)	17/09/2019
Daubenton's Bat *Myotis daubentoniid*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c	c. 1.3km south (22/09/2023)	22/09/2023
Whiskered Bat *Myotis mystacinus*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c	c.1.3km south (06/09/2019)	24/08/2023
Whiskered/ Brandt's *Myotis mystacinus/ brandtii*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c	c.1.6km northwest (07/07/2022)	07/07/2022

Natterer's Bat *Myotis nattereri*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c	c. 1.3km south (30/05/2023)	30/05/2023
Leisler's Bat *Nyctalus leisleri*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c	c. 1.3km south (30/05/2023)	30/05/2023
Noctule Bat *Nyctalus noctule*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c; NERC S41	c. 1.3km south (22/09/2023)	22/09/2023
Pipistrelle Bat Species *Pipistrellus*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c; NERC S41	c.1.3km south (30/08/2018)	20/08/2020
Nathusius's Pipistrelle *Pipistrellus nathusii*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c	c.1.3km south (22/09/2023)	22/09/2023
Common Pipistrelle *Pipistrellus pipistrellus*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c; NERC S41	c. 400m northwest (23/07/2016)	22/09/2023
Soprano Pipistrelle *Pipistrellus pygmaeus*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c; NERC S41	c.1.3km south (22/09/2023)	22/09/2023
Long-eared Bat species *Plecotus*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c; NERC S41	c. 2.3km northwest (28/08/2019	28/08/2019
Brown long-eared Bat *Plecotus auritus*	Habitat Directive A4; Habitat Regulations Sch 2; Wildlife and Countryside Act (1981 as amended) Sch 5 s9.4b/c; NERC S41	c. 1.3 km south (03/10/2023)	03/10/2023
Birds			
Marsh Harrier *Circus aeruginosus*	Birds Directive A1; Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	02/05/2022
Hen Harrier *Circus cyaneus*	Birds Directive A1; Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1; NERC S41	Within 2km	23/04/2019
White-tailed Eagle *Haliaeetus albicilla*	Birds Directive A1; Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	02/04/2022
Red Kite *Milvus milvus*	Birds Directive A1; Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	21/02/2024
Osprey *Anas crecca*	Birds Directive A1; Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	23/09/2023
Honey Buzzard *Pernis apivorus*	Birds Directive A1; Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	01/07/2016

Merlin *Falco columbarius*	Birds Directive A1; Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	18/02/2017
Peregrine *Falco peregrinus*	Birds Directive A1; Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	22/10/2023
Hobby *Falco subbuteo*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	21/09/2023
Grey Partridge *Perdix perdix*	NERC S41	Within 2km	18/04/2018
Skylark *Alauda arvensis*	NERC S41	Within 2km	15/10/2022
Cetti's Warbler *Cettia cetti*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	18/06/2023
Yellowhammer *Emberiza citrinella*	NERC S41	Within 2km	01/06/2022
Reed Bunting *Emberiza schoeniclus*	NERC S41	Within 2km	23/12/2023
Lesser Redpoll *Acanthis cabaret*	NERC S41	Within 2km	30/12/2023
Hawfinch *Coccothraustes coccothraustes*	NERC S41	Within 2km	23/10/2022
Brambling *Fringilla montifringilla*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	16/04/2023
Linnet *Linaria cannabina*	NERC S41	Within 2km	18/04/2024
Grasshopper Warbler *Locustella naevla*	NERC S41	Within 2km	03/09/2022
Spotted Flycatcher *Muscicapa striata*	NERC S41	Within 2km	11/09/2022
Black Redstart *Phoenicurus ochruros*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	15/03/2020
Willow Tit *Poecile montanus*	NERC S41	Within 2km	20/09/2015
Marsh Tit *Poecile polustris*	NERC S41	Within 2km	24/12/2023
Wood Warbler *Phylloscopus sibilatrix*	NERC S41	Within 2km	27/08/2014
Firecrest *Regulus ignicapilla*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	28/10/2023
Redwing *Turdus iliacus*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	26/02/2024
Song Thrush *Turdus philomelos*	NERC S41	Within 2km	16/04/2023

Fieldfare *Turdus pilaris*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	09/12/2023
Lesser Spotted Woodpecker *Dryobates minor*	NERC S41	Within 2km	22/03/2023
Black-necked Grebe *Podicepsnigricollis*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	23/04/2022
Short-eared Owl *Asio flammeus*	Birds Directive A1	Within 2km	15/11/2021
Barn Owl *Tyta alba*	Wildlife and Countryside Act (1981 as amended) Sch 1 Pt1	Within 2km	04/01/2024

Designated sites

3.2 There are no internationally designated sites such as Ramsar sites, Special Area of Conservation (SAC), or Special Protection Area (SPA) within 15km of the site's red line boundary, and as such are not considered further within this report.

Table 3: Nationally statutory designated sites within 2km of the site

Name of site and designation	Description (Taken from site citation where applicable)	Approximate Distance from Site (At nearest point)
Warnham LNR	Warnham LNR is a 38.4-hectare Local Nature Reserve in Horsham in West Sussex. It is owned and managed by Horsham District Council. The principal feature of the site is the 7-hectare Warnham Millpond. The site supports free parking, trails, and hides. The visitor centre has an exhibition room and café. A direct aquatic link from the stream on site to the designation is present across the landscape	160m south of the red line boundary
Warnham SSSI	Designated for geological interest and as such is scoped out of assessment.	850m north of the red line boundary

SSSI: Site of Special Scientific Interest
LNR: Local Nature Reserve

3.3 There are also two non-statutory sites within 2km of the site's boundary, these are:

Warnham Mill Pond Local Wildlife Site (LWS), approximately 170m south;

- Designated for its damned lake which provides valuable open-water and marginal habitats for wildlife, which include reed and sedge warblers, and reed buntings. The site also attracts multiple species of waders wildfowl, as well as

multiple amphibians. A direct aquatic link from the stream on site to the designation is present across the landscape

Brockhurst Wood & Gill & Morris's Wood LWS, approximately 800m northeast.

- Designated for its woodland habitats, including areas on or adjacent to the stream. The site also has a species-rich ground flora in places, particularly alongside the stream banks which support a number of mosses and liverworts.

Habitats

Context and surrounding priority (Section 41 list) habitats

3.4 There are a number of priority habitats within 2km of the red line boundary, based on (Figure 3):

- Woodpasture and parkland, located 815m south-west of site;
- Lowland mixed deciduous woodland, **located on site to the north and east and also along the southern boundary of site**;
- Ancient semi-natural woodland, **located on site and along the northern boundary of site;**
- Ancient replanted woodland, located approximately 800m north-east of site;
- Traditional orchard located approximately 1.6km west of site.

Figure 3: Priority habitats within 2km of the red line boundary: deciduous woodland (green), ancient semi-natural woodland (vertical hatching), ancient replanted woodland (horizontal hatching) woodpasture and parkland (tree symbols) and traditional orchard (lime green)

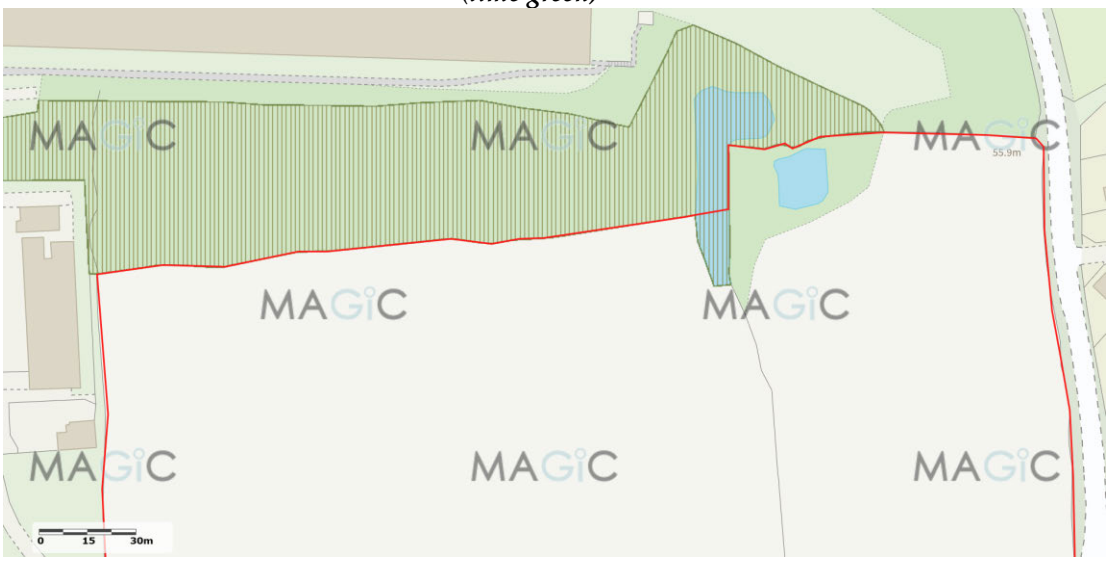

Figure 4: Ancient and semi-natural woodland located on site and on the northern boundary, it should be noted that the only section of ancient woodland marked on site is in fact a pond not woodland (green vertical hatching)

Baseline habitats on the site

3.5 There have been very few changes to the habitats present on site in 2024 since the initial surveys was conducted in 2018 and 2020. The site primarily consists of extensive areas of modified and neutral grassland with tree lines, hedgerows and woodland edges along the boundary features. The habitats are detailed in the PEA report 2024. The site is managed by low-density, rotational horse grazing and occasional hay cutting. The site is sub-divided into five fields, see figure 5 below for details.

Figure 5: Fields, hedgerows, woodland patches, and scrub patches on site

Table 4. Habitats present in on site, and their relative importance

Habitat	Description	Importance
Modified grassland	Present across the north-east of site (Field 2), the majority of the central area of site (all of Field 4 apart from the western end), and the southern paddock (Field 5). Characterised by strong presence of perennial rye-grass, as well as other palatable agricultural grasses. Forb diversity was low, with the most common being creeping thistle, spear thistle, creeping buttercup, and white clover. Other forbs were present but generally rare.	**Site**
Other neutral grassland	Present across the north-west of site (Field 1), and the western parts of the centre of site (Field 3 and the western part of Field 4). Characterised by a higher coverage of forbs than the neutral grassland, less perennial rye-grass, and a wider diversity of grasses.	**Site**
Mixed scrub	Two areas of mixed scrub were present on site. One area was present between Field 1 and Field 2, stretching south from the woodland. There were some mature trees within, but the habitat was primarily under 5m in height, and contained elder, field maple, hazel, blackthorn, oak, and bramble. The other area was larger and ran along the railway boundary of Fields 3 and 4, surrounding Pond 3 and running south from there in a strip. Goat willow dominated the northern end, but hawthorn, dog rose, elder, ash, and bramble were also present.	**Site**
Blackthorn scrub	A small section of blackthorn scrub encroached onto site near the north-western boundary of Field 1. Dominated by blackthorn, but with bramble present too.	**Site**
Lowland mixed deciduous woodland	Of the two areas of woodland on site, one was classified solely as lowland mixed deciduous woodland. Woodland 2 was adjacent to the houses east of site, running along the streamside. This was dominated by oak, with goat willow, sycamore, hawthorn, and holly. Giant hogweed was noted within, alongside the stream. There was also a large area of off-site woodland, which partially encroached on site, which was dominated by oak and ash.	**Local**

Lowland mixed deciduous woodland	The other on site woodland, woodland 1, was adjacent to the northern boundary and was partially identified as ancient/semi-natural woodland. Whilst MAGIC indicated that this classification may pass onto site, the area marked as such was in reality a pond. It is dominated by oak, with hazel and hawthorn.	**Local**
Native hedgerow	Hedgerow H1 was along the western boundary of Field 1, dominated by blackthorn, with occasional bramble, and rare elder and oak.	**Local**
Native hedgerow with trees	Hedgerows H2, H3, H5, H6, H7, and H8 all contained mature trees. H2 was dominated by blackthorn, with hawthorn and elder, with mature wych elm trees. H3 was characterised by hawthorn, spindle, and dog rose, with mature ash at either end. H5 was dominated by blackthorn, with hawthorn mature sweet chestnut. H6 was characterised by abundant hawthorn and field maple, with mature oak, horse chestnut, and large-leaved lime trees. H7 comprised hawthorn and hazel, with large leaved lime and horse chestnut trees.	**Local**
Native hedgerow with trees associated with bank or ditch	Hedgerow H4 also contained mature trees but was associated with the banked stream which ran across site. Primarily characterised by sizeable mature ash and oaks, the shrub layer comprised primarily hawthorn and hazel.	**Local**
Scattered trees	A number of individual trees were present across site. the most notable located in the mid-section of the site within grassland area 3 and 4. These were largely mature English oak trees, with an ash tree noted close to the railway line in the southwestern corner of grassland area 4. A veteran oak is present on the northern edge of woodland 2, on the boundary with field 4. This tree in referred to as 57 on the tree report and is target noted on the habitat map. This is classed as an irreplaceable habitat.	**Site** (all mature trees) **Local** (veteran oak)
Tall forbs	A small area of tall forbs was present around the small building on site. Vegetation comprised oxeye daisy, red campion, common nettle, silverweed, and garlic mustard.	**Site**

Ponds	There were four ponds present on site. Ponds 1 and 2 were located at the extreme north of the site within woodland 1, the block present on the site northern boundary. Pond 1 spanned the site boundary with the southern portion of the waterbody located on site. Pond 2 lay in close proximity a matter of metres to the east of Pond 1. Due to shading the ponds were noted as unvegetated with notable leaf litter Pond 3, is located within the woodland block to the east of the site, just north of Pondtail stream which runs through the site. This pond is heavily shaded, by the surrounding woodland, this pond is also known to dry out at different times of the year. Pond 4 was located on the western boundary within an area of willow scrub. The pond was inundated with willow, which is likely the reason it is partial to drying events. Both ponds were noted as lacking macrophytes due to heavy shading and likely drying events.	**Site**
Other rivers and streams	A stream ran from east to west along the boundary between fields 4 and 5. The stream runs through the adjacent woodland in sections and is heavily shaded, however towards the eastern aspect the stream is lines with remote sedge, pond sedge, common nettle and soft rush.	**Local**

Species and species groups

3.6 Species data is derived primarily from the 2km biological records from the Sussex Biological Records Centre (SxBRC). These are detailed within the PEA.

3.7 The desktop study revealed there were seven European Protected Species Mitigation (EPSM) licences issued within 2km of the site boundary and a number of GCN licence returns. These are listed below and shown in Figure 6.

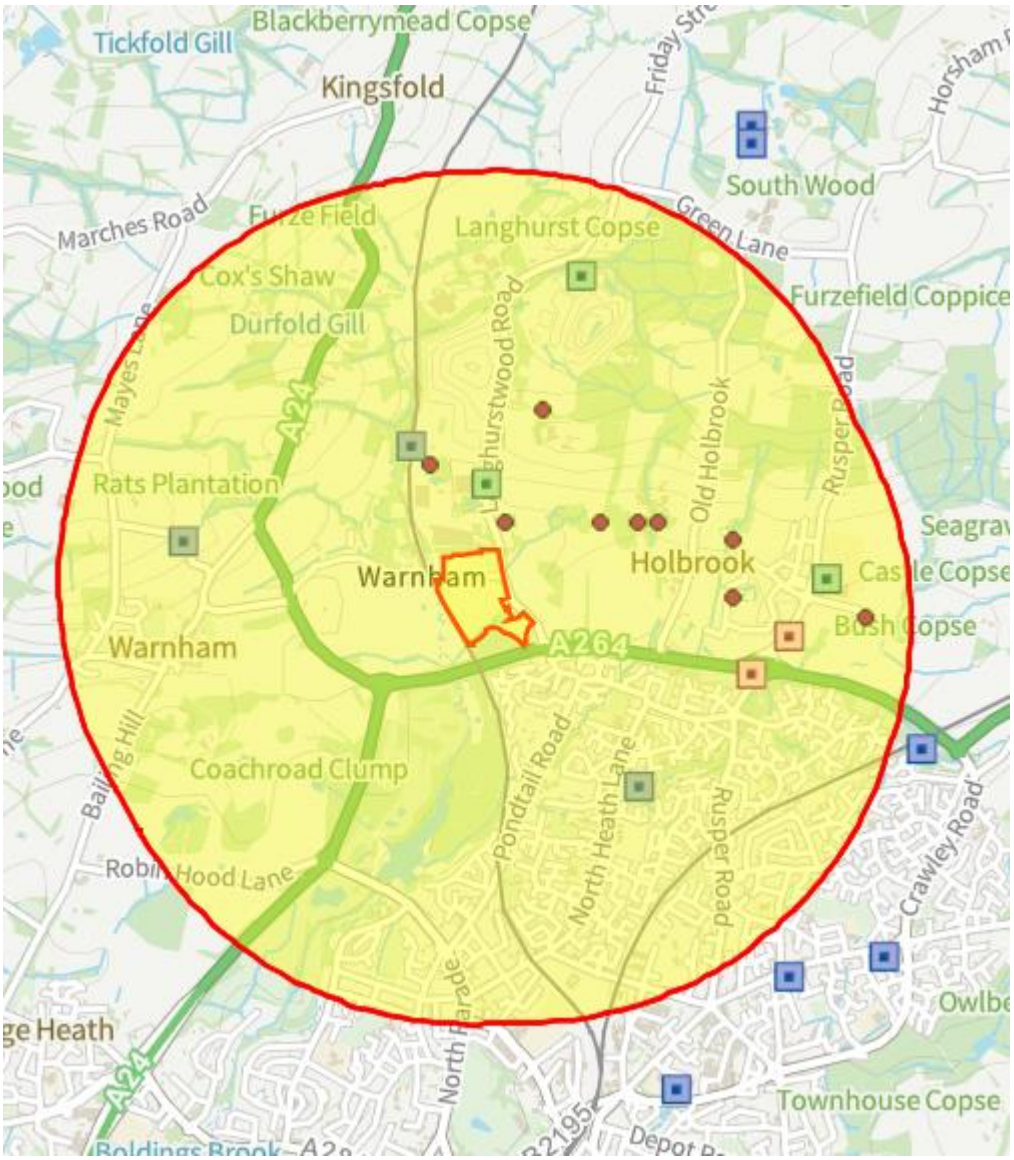

Figure 6: EPS licences within 2km of the red line boundary. Blue square: bats, green square: GCN, pink square: dormice, purple circle: GCN Class Survey Licence Returns.

Bats

3.8 Three buildings / structures were identified within the redline boundary, these were two temporary structures in the form of old vehicle containers and one dilapidated shed with a corrugated metal roof and timber walls. A large section of the roof had caved in allowing large levels of light to enter the interior of the building. Furthermore, metal roofing is considered largely unsuitable for roosting bats owing to fluctuations in temperature over the course of the day and lack of crevices. The shipping containers also had metal roof and no obvious roosting features. Furthermore, no evidence of bats was identified internally,

although it should be noted that the dilapidated shed could not be fully surveyed due to health and safety concerns involving the structural stability. Therefore, all buildings located on site were considered to contain 'negligible' roosting bat potential.

3.9 Multiple trees on site were identified as having roosting bat potential, these were classified as 'potential roost feature – individual' (PRF–I) or 'potential roost feature – maternity' (PRF-M) Locations of all of these trees are located on the habitat map. PRF-I trees have been assessed as having potential to support low numbers of bats most likely individuals, this is through the general size and structure of a tree even though no specific feature has been identified, or through the presence of insignificant small features which may support a roost of low conservation value. This includes trees numbered 1, 102, 142 on the SJA Arboricultural Report. PRF – M trees have been assessed as having significant or multiple features which could support multiple numbers of bats, including potential maternity roosts. These included trees 57, 87, 89, 91, 103 and 105. These trees are to be retained as part of proposals

3.10 It is noted that that the tree previously identified as supporting a bat roost in 2018 and 2020 is no longer present on site. It is not known what has happened to the tree. It is noted however that the tree was dead and in a very poor condition and may have failed due to natural causes. This was the case for another previously identified bat potential tree (104 on previous Arboricultural report), which was witnessed on the ground during the 2024 reptile and dormouse survey set up and had clearly blown over. It is understood that this tree was subsequently cut up and removed from site by the previous landowner.

3.11 The preliminary ecological appraisal in 2018, 2020 and 2024 identified the requirement for bat activity surveys due to the quality of the on-site and off-site habitats for bats.

3.12 Moderate levels of bat activity were recorded during transect surveys in 2017/2018, 2020 and night time bat walkover surveys in 2024. Activity on site was dominated by common and soprano pipistrelles which are both common and widespread.

3.13 In 2017/2018, and 2020 Anabat detectors recorded greater levels of bat activity on site than previously indicated by the transects. Similarly to the transect surveys, activity was dominated by common and soprano pipistrelles. A number of other species not previously

identified on site were also recorded including nathusius' pipistrelles, brown long-eared bats, serotines and barbastelles.

3.14 In 2024, anabats established in May, July and September across the site, identified similar species composition, with the remote recordings being dominated by common and soprano pipistrelles. Noctules were the third most recorded species during the survey period. Other species, including serotine, myotis, Nathusius and barbastelle bats, were recorded infrequently.

3.15 The development proposals are largely restricted to the arable fields, which offer negligible habitat for foraging bats.

3.16 It is considered that the development proposals retain the key ecological networks. The proposals show significant planting proposals along the northern aspect of the site, but also through the site's development footprint. Treelines, native hedgerows, species rich grassland and new native scrub planting, are recommended to be incorporated into the detailed landscape proposals.

3.17 It is considered that this would be sufficient to mitigate for the potential loss of linear features on site for the new access route onto site. It is also considered that these measures would also improve the overall ecological value of the site for a range of other native species. The above recommendations for habitat retention, mitigation and compensation would be considered sufficient to ensure the development would not impact upon the favourable conservation status of bats within the local area post-development.

[redacted]

Hazel Dormice

3.21 The site supported suitable native hedgerow, mature treeline and woodland boundary habitats and a survey of these habitats were undertaken on site in 2017/2018 by The Ecology Partnership and updated in 2024. These surveys, with the deployment of nest tubes, following standard methods and survey effort, found no evidence of dormouse, with sufficient probability for the species to be **assumed absent** from the site. No additional surveys for dormice were considered to be necessary to support the EcIA.

GCN

3.22 A total of 8 ponds were found within a 250m radius of the site, with four of them located within the site itself (Figure 2).

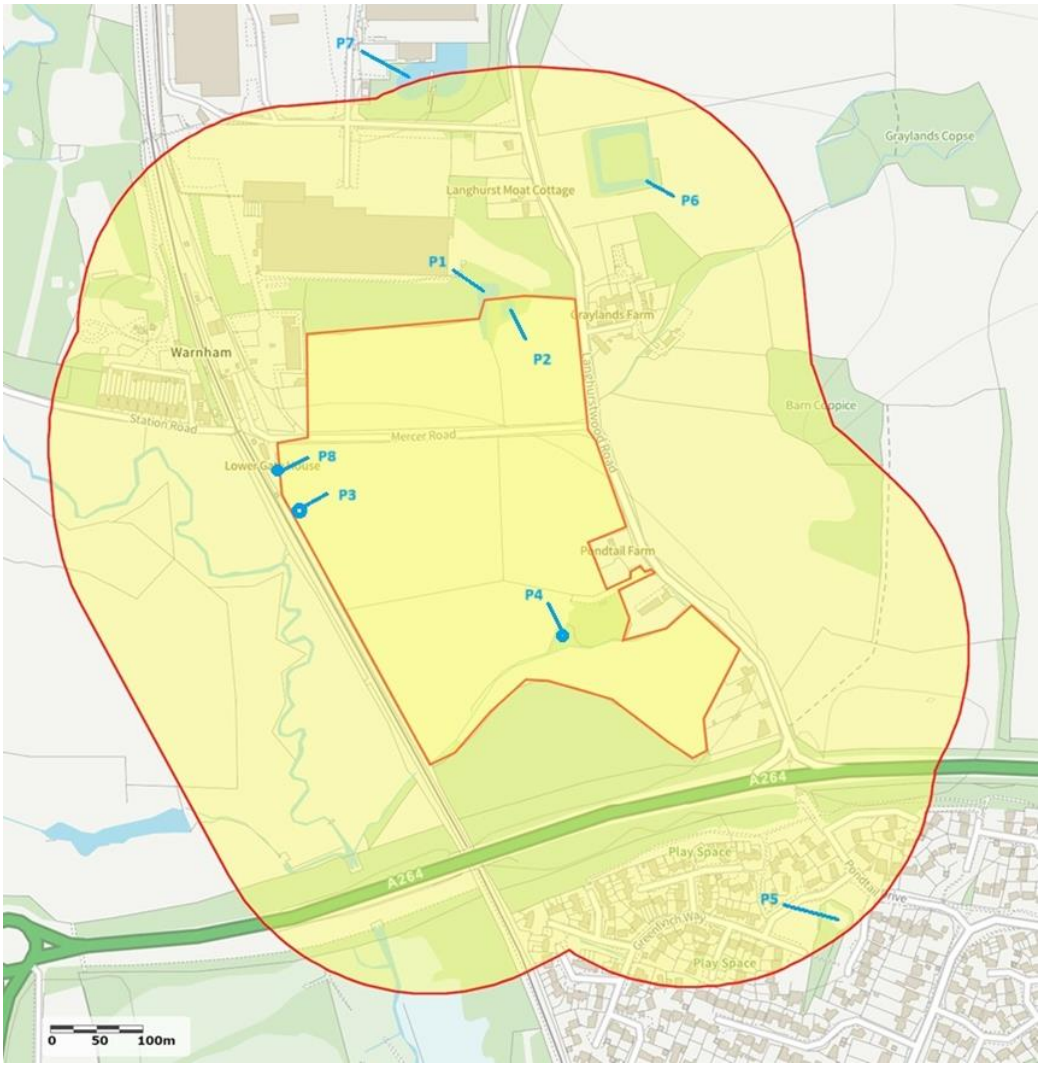

Figure 7 Ponds present around site.

3.23 The Ecology Partnership undertook eDNA surveys of ponds 1, 2, 3, 4, 5 and 8 in June 2017, all ponds tested negative for GCN presence indicating the likely absence of the species from the waterbodies. Ponds 6 and 7 were not surveyed at the time.

3.24 Further pond surveys were carried out between 04/04/2019 and 25/04/2019 on ponds 1, 2, 3, 4, 5 in order to determine presence/likely absence and, where applicable, approximate population sizes. Ponds 6 and 7 and another potential pond were situated outside the site boundary on private land. Access to survey the ponds was not granted. Pond 8 was not surveyed in 2019; the pond was considered highly unsuitable for GCN owing to its small size and presence of fish.

3.25 Pond 5 was situated within a residential area and was openly accessible, bottle traps were not used to avoid the risk of vandalism. Netting, torching and egg searching were used instead. Pond 4 was bottle trapped only on survey visits 1 and 2, the water level was too shallow on surveys 3 and 4, netting was used instead on these surveys.

Table 5: Summary of great crested newt survey results (2017 and 2019)

Pond ref	2017 Survey	GCN detected?	2019 Survey	GCN detected?	HSI	Pond suitability	Eggs
1	eDNA	No	Pond survey	No	0.63	Average	No
2	eDNA	No	Pond survey	No	0.61	Average	No
3	eDNA	No	Pond survey	No	0.72	Good	No
4	eDNA	No	Pond survey	No	0.61	Average	No
5	eDNA	No	Pond survey	No	0.60	Average	No
8	eDNA	No	Not surveyed		0.33	Poor	

3.26 None of the surveyed waterbodies were found to contain GCN in either 2017 or 2019 surveys.

3.27 Further updated eDNA surveys were conducted on 25th June 2024 on ponds 1, 2 and 8. Ponds 3 and 4 were dried up at the time of the eDNA survey so they were unable to be assessed. The results from ponds 1, 2 and 8 confirmed the absence of GCN within the ponds. With extensive survey from on site it is considered the species is absent. Other inaccessible ponds within the local area are separated from site by barriers to dispersal and with extensive surveys showing absence of the species from site, it is not considered the species are using the site. As such GCN are not considered further.

Reptiles

3.28 The majority of the grassland on site was considered unsuitable for reptiles, as horse grazing and mowing had maintained a low sward height, eliminating suitable cover to conceal them from predators. However, the edge habitats on site do provide suitable habitat for reptiles, and, numerous brash and log piles on site provide further refuge opportunities and potential hibernacula. Furthermore, a 'low' population of slow worms and 'good' population of common lizards, as well as suspected 'low' population of grass snakes due to the presence of juveniles on the site during the reptile checks in 2017.

3.29 The reptile surveys conducted in 2020, found that the site supported a 'low' population of common lizards, slow worms and grass snakes.

3.30 The reptile surveys conducted in 2024, found that the site supported a 'low' population of common lizards, slow worms and grass snakes.

Breeding birds

3.31 The survey period included two surveys, one 6th April 2024 with the second survey conducted on 4th May 2024. The 2024 survey recorded 34 probable or confirmed breeding bird species, within the red line or adjacent. A total of 15 of the probable or confirmed breeding are of conservation concern (principal importance, red or amber list).

3.32 Several breeding pairs of **starling, wren, house sparrow** and **dunnock** were recorded, with observations from the site's hedges. **Herring gull, mistle thrush, linnet, mallard, black-headed gull and stock** dove were recorded flying across the site during both of the surveys. Bird song from **greenfinch, song thrush and moorhen** was recorded across the two surveys.

3.33 Nightingale was recorded during the second survey only and recorded off-site to the east of the site. Nightingales are migratory birds which arrive in spring, and utilise areas of thick vegetation including scrub. The nightingale is classified in the UK as Red under the Birds of Conservation Concern 5: the Red List for Birds (2021). This species is not notable for this development since the species was recorded off-site.

3.34 Considering the red and amber listed species recorded on the site the bird population is considered to be of **local importance.**

Other Species - Water Vole, Stag Beetle and Hedgehog

3.35 Water vole were considered absent from site due to a lack of evidence and a lack of records within the local area. There were some suitable habitat for stag beetle on site in the form of dead wood within the woodland blocks. Hedgerows, scrub and woodland and open grassland formed suitable habitat for hedgehogs.

Table 6: Summary table of faunal groups within development zone of influence

Faunal Group/Species	Description	Level of Importance
Bats – roosting in trees	Several trees with bat roost features were identified on site. Trees identified as PRF-I numbered 1, 102, 142 on the SJA Arboricultural Report. PRF – M trees have been assessed as having significant or multiple features which could support multiple numbers of bats, including potential maternity roosts. These included trees 57, 87, 89, 91, 103 and 105. These trees are to be retained as part of proposals	**Site** (*legislative implications if roosts are present*)
Bats – roosting in buildings	As the building / structures were identified as supporting 'negligible' roosting bat potential, it was considered highly unlikely any bats are currently roosting within any building on site.	**N/A** (*likely absent from the site*)
Bats – foraging and commuting	The site has multiple linear foraging and commuting routes which include: tree lines; hedgerows; woodland edges; and the stream. The activity surveys found a variable level of bat activity during the 2017 and 2018 surveys, with the 2020 surveys finding low levels of common species with common and soprano pipistrelles dominating the calls. Rare instances of myotis, serotine, noctule, barbastelle, Leisler, brown long-eared, Daubenton's and Natterers were picked up on the static detectors, with a single pass of a barbastelle also picked up. The 2024 activity surveys found that the activity was dominated by common bat species such as common and soprano pipistrelles. Rare recordings of myotis, serotine, noctule and nathusius's pipistrelle, with a single pass of a barbastelle recorded. The activity surveys indicate the mature treelines and woodland may form part of a network of foraging and commuting habitat for bats across the landscape.	**Local** (*good quality foraging and commuting habitat in local context*)
[redacted]	[redacted]	[redacted]
Reptiles	Suitable habitat for reptiles was limited to the field edges where scrub provided adequate cover that the grazed grassland did not. A 'low' population of slow worms and grass snakes was found with a 'high' population of common lizards identified on site in 2017. A 'low' population of common lizards, slow worms and grass snakes was identified using the site in 2020. And finally, a 'low' population of slow worm, common lizard and grass snake were identified on site during the 2024 surveys.	**Site** (*legislative implications and suitable habitat in local context*)

Faunal Group/Species	Description	Level of Importance
GCN	Due to the absence of GCN identified during the survey efforts in 2017, 2019 and 2024, it is considered that GCN are absent from site.	**N/A** (*likely absent from site*)
Dormice	Surveys did not identify any dormice or evidence of dormouse activity.	**N/A** (*likely absent from site*)
Birds	The 2024 surveys recorded 34 species. Several breeding pairs of starling, wren, house sparrow and dunnock were recorded, with observations from the site's hedges. Herring gull, mistle thrush, linnet, mallard, black-headed gull and stock dove were recorded flying across the site during both of the surveys. Bird song from greenfinch, song thrush and moorhen was recorded across the two surveys. A nightingale was recorded however this was some distance of site to the east on the other side of Langhurst there is no evidence that Nightingale use the site.	**Site**
Water Vole	No evidence of the species on site and lack of records within the local area.	**N/A** (*likely absent from site*)
Stag Beetle	Deadwood present within woodland blocks that may provide suitable habitat for larvae.	**Site**
Hedgehog	Field margins and boundary scrub, hedgerow and woodland on site was considered suitable to support hedgehog. Furthermore, records of hedgehogs within the local vicinity of the site point towards likely presence.	**Site** (*good quality foraging habitat in local context*)

Future Baseline

3.36 Future baseline conditions are conditions which would be likely to arise if present conditions continue and a change of land use through the planning system does not occur. These conditions are assumed to be the continued functioning of the site for pasture and hay production with associated management of hedgerows, trees and woodland as required.

4.0 Description of the Proposed Development

4.1 The planning application for the proposed development comprises the construction of 304 residential units, open green spaces, SUDS and associated vehicular access.. The details of

onsite embedded mitigation and compensation measures have been designed into the landscape strategy.

4.2 Specified features of the submitted site layout that can be considered in which the scheme has been designed around (**Avoidance/Mitigation**) are:

- The retention and protection of the majority of mature scattered trees, woodland, hedgerows, ponds and underlying scrub around the edges of the site
- Inclusion of a 15m buffer zone along the northern boundary between the site and the ancient and semi-natural woodland.
- Retention and buffer zone of the veteran oak tree identified on site
- Retention and buffering of the stream (where possible) and ponds on site
- Development of SuDS system to prevent harmful run-off into the on site stream and to prevent any potential negative impacts upon Warnham Local Nature Reserve and Warnham Mill Pond Local Wildlife Site.
- Removal and appropriate disposal of giant hogweed to prevent further spread on site.
- Production and application of CEMP document on site

4.3 Additional **species-specific mitigation** measures to be incorporated within the scheme (maybe subject to change as part future reserved matters application):

- Retention of trees with bat roost potential;
- A sensitive lighting scheme, particularly adjoining green linear features, to maintain dark corridors on and off site for bats;
- [redacted]
- Ongoing management continued and selective sensitive clearance using RAMs with regards to reptiles;
- Clearance of any suitable nesting bird habitat, including boundary scrub, trees, and outbuildings, outside of nesting bird season or under ecological supervision; and ;
- Relocating deadwood into the retained woodland blocks to support stag beetles

- Sensitive clearance for hedgehogs and inclusion of hedgehog highway holes in any proposed fencing.

4.4 Specified features of the submitted landscape and ecology strategy drawing that are proposed as **compensation** are:

- Planting of trees to compensate for those lost;
- Replacement of boundary hedgerow including priority hedgerow and scrub that will be impacted.
- Enhancement of areas of greenspace with planting wildflower grassland, scrub, native, hedgerow, creation and planting up SuDS as part of BNG strategy for loss of overall habitat to minimise habitat loss on site; and
- Installing additional nesting and roosting provision on site for birds and bats;

5.0 Assessment of Effects and Mitigation Measures

5.1 The impact assessment is for the development as described above (section 4), including the submitted site layout plan and landscape and ecology strategy and their embedded mitigation. The assessment does not separate construction and operation impacts, solely assessing effects on important features that would result from the final layout. Residual impacts are those after mitigation and before compensation, which is considered in section 7.

5.2 Important features off the site, but within the zone of influence of the potential for increased recreational pressure, therefore requiring impact assessment, are:

- Warnham LNR and Warnham Mill Pond LWS, approximately 140m south;
- Brockhurst Wood & Gill & Morris's Wood LWS, approximately 800m northwest; and

5.3 Features within or overlapping the red line that require an impact assessment are those determined as important in section 3, namely;

- Ancient and semi-natural woodland (irreplaceable habitat);
- Veteran Tree (irreplaceable habitat);
- Lowland mixed deciduous woodland (priority habitat);
- Hedgerows (priority habitat);
- Onsite non-priority habitats – scattered trees, grassland, stream, ponds etc.

- Bats (roosts, and foraging and commuting habitat);
- [redacted]
- Reptiles;
- Hedgehogs;
- Stag Beetles
- Breeding Birds; and
- Giant hogweed

5.4 Important features offsite, but within the zone of influence of the development and have the potential to be impacted indirectly, are:

- Warnham LNR and Warnham Mill Pond LWS
- Brockhurst Wood & Gill& Morris's Wood LWS

Ancient and semi-natural woodland (irreplaceable habitat)

5.5 The ancient and semi-natural woodland along the northern boundary of the site is being fully buffered, with a 15m buffer zone being implemented between the development and the woodland to further reduce any potential indirect impacts such as, light pollution, disturbance and garden encroachment. Dust from site should be prevented from entering the habitat following a CEMP document. It is considered that the proposals will result in a **'neutral'** impact on this priority habitat, prior to enhancements.

Veteran tree (irreplaceable habitat)

5.6 The mature oak identified as a veteran specimen, (tree 57 on Arboricultural report) is to be retained and buffered with the required buffer zone following best practice advice during construction. The tree will be subject to sympathetic ongoing management as required. It is considered that there will be a **'neutral'** impact upon the veteran tree on site

Lowland mixed deciduous woodland (priority habitat)

5.7 The northern and southern parcels of mixed deciduous broadleaved woodland are to be retained and buffered on site. A small section of the woodland located on the eastern boundary on the northern side of the stream is to be removed. The site has been redesigned several times to ensure as much of this habitat is retained as possible, along with the valuable mature trees and hedgerow along the bank of the stream to the west. This habitat

will be subject to ongoing management and will have the invasive species giant hogweed removed as part of proposals. However with the loss of a small area of woodland on site, it is considered that there will be a **'negative'** impact upon deciduous woodland on site.

Hedgerows (Priority Habitat)

5.8 Sections of hedgerow are present along the site boundaries and along the northern bank of the stream. The majority of this habitat is classified as hedgerow with trees, with a mature trees present within these habitats. The majority of this habitat is to be retained on site, with clearance avoiding mature trees within hedgerow habitat where possible. This habitat will be severed to provide access across the site through an access roads and paths. Without compensation, there will be a **minor negative impact** for this habitat on site.

Onsite non-priority habitats – Stream, ponds, mature trees, scrub, grassland habitats

5.9 The ponds have been designed into the scheme, buffered and should be protected during the scheme from dust and pollution through the provision of a CEMP document along with the retained section of the stream and woodland blocks. The proposal was redesigned to ensure that retention of as many mature trees and as much of the scrub habitat as possible on site was possible following the mitigation hierarchy. Grassland habitats and a section of the stream as part of culverts and headwalls will be lost. Overall without compensation a **minor negative impact** will occur.

Bats (roosts trees)

5.10 All trees with bat potential identified within the current baseline have been retained within the scheme. It was noted within the update 2024 PEA, that two oak trees have been removed from site, one was considered to have potential for roosting bats within the previous survey and is known to have fallen due to natural causes. An additional tree which was previously noted as having a bat roost present is no longer present. This tree was dead and in a poor condition and may have failed due to natural causes as per the other tree. However, the land was under the management of the previous landowner at the time, it is not known exactly what happened to the tree. The roost identified was of low conservation value, and as such the loss of the tree would not impact the favourable conservation status of bats in the local area. However, compensation has been

recommended in the form of the erection of a bat box and without this it is considered there is a **'minor negative'** to roosting bats on site.

Bats (foraging and commuting)

5.11 The majority of the linear features favoured by bats as flight lines on site, including hedgerow, scrub edges and woodland blocks are to be retained and buffered as part of the proposal. This will maintain connectivity of flightlines and foraging habitat across site and the local landscape. Small sections will be lost to provide access across the site. Mature trees are being retained where possible and existing

5.12 In terms of foraging and commuting bats, a sensitive lighting scheme will be carried out across the site. Particularly where the urban footprint borders linear boundary features such as hedgerows and treelines. The scheme will follow the following guidance:

- Installing lighting only if there is a significant need;
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component;
- Directing light to where it is needed and avoiding light spillage;
- Using baffled lighting where light is directed towards the ground;
- Avoid putting lighting near tree lines or hedgerows and angling light away from these linear features which are used by commuting and foraging bats;
- Planting a barrier or using man-made features required within the scheme to form a barrier.

5.13 The lighting scheme will prevent any operational residual negative impact to linear features on site. However, due to a loss of scattered trees and small sections of hedgerow, scrub and woodland, a **minor negative impact** cannot be ruled out without further compensation.

[redacted]

Reptiles

5.17 The majority of the reptile suitable habitat (scrub, hedgerows and woodland edge) are being retained and enhanced within the proposals, thus helping to avoid directly impacting reptiles and their commuting and foraging habitat on site. However, it should be noted that this would only be the case if the management of the grassland, which dominates the site, is maintained. If the grassland is not maintained, it could become suitable for reptiles. To avoid this the current or similar management routines should be utilised to ensure the grassland remains unsuitable for reptiles. Furthermore reasonable avoidance measures as detailed below will need to be employed. Overall, if these mitigation measure are followed, the a minor loss of suitable reptile will result in a **minor negative effect**, prior to compensation.

Hedgehogs

5.18 Whilst having no specific legal protection they are protected from certain forms of harm under Wild Mammals (Protection) Act 1996. As such sensitive clearance practices will be

employed as recommended within the PEA. It is recommended that hedgehog holes are placed within any new panel fencing on site, to allow continued access to hedgehogs across the site for commuting and foraging purposes. With these measures employed **no residual impacts** are predicted.

Stag Beetles

5.19 If deadwood is encountered during construction this should be moved safely to retained woodland habitat. If this is the case then **no residual impact** is predicted

Breeding birds

5.20 The legislative protection afforded active nests, birds and their eggs and young will be met through the clearance of vegetation outside of the breeding season or after a nesting bird check by a suitably qualified ecologist. The development will result in a temporary loss of suitable nesting habitat provided by small number of scattered trees and sections of the tree lines. The loss of these habitats reflects a negligible loss in the total potential breeding bird suitable habitat on the site, which is being compensated for with additional hedge, tree and scrub planting as part of the proposals.

5.21 It should also be noted that multiple rare and protected species were noted using the site, these were: starling, wren, dunnock, house sparrow, herring gull, greenfinch, linnet, mistle thrush, song thrush, black-headed gull, moorhen, stock dove, woodpigeon and mallard which are all listed as either red or amber on the BoCC. The majority of these species were noted within the boundary tree lines, hedgerows and woodland boundaries across the site, which these species use as their nesting locations. It is also considered that as the vast majority of these features are being retained and enhanced, with new and more diverse areas of grassland are being created, which could provide better foraging opportunities for breeding birds in the local area.

5.22 All works to nesting bird suitable habitat should be undertaken outside of the breeding bird season (March-September inclusive) or immediately after a nesting bird check by a suitably qualified ecologist. If active nests are identified, works in the vicinity of the nest must cease until the birds have fledged the nest.

5.23 It is however considered that there may be some increase in disturbance from new residents to nesting birds as part of the operational phase and there is also the potential for predation by domestic pets such as cats.

5.24 Overall, it is considered that with the mitigation measures in place, that the proposals will result in a **negative (minor)** effect on breeding birds over the site, prior to enhancements.

Giant Hogweed

5.25 Due to the invasive and harmful nature of this species, a specialist contractor will be sought after for the immediate and full removal of this species across the entire site. If this work is undertaken then there will be a **positive impact** on site

Warnham Mill Pond LNR and LWS

5.26 This non-statutory designated site was designated for its damned lake which provides valuable open-water and marginal habitats for wildlife, which include reed and sedge warblers, and reed buntings. The site also attracts multiple species of waders wildfowl, as well as multiple amphibians. The site is located approximately 140m south of the site, and as such no direct negative impacts would be anticipated from construction or during operational phase.

5.27 The site is open to and managed for public recreation, with pathways, bins and signage provisions already present. Whilst the proposals are likely to lead to an increase in recreational activity over the site, this increase is thought to be minimal as no dogs are permitted on the site, and as there is a fee to enter the site (£4 for adults, £2 for children), most people are to choose other open green spaces that are free or allow dogs.

5.28 The stream on site flows into Boldings Brook to the west of the site boundary. This waterbody eventually flows into the LNR. As such water quality, such as construction related pollutants and site runoff impacts need to be considered as part of the planning application.

5.29 As the site is already managed for public use to protect habitats of importance, the fee to enter and as dogs can't enter the site, the development would result in no significant residual effect on the LNR and LWS with regards to recreational pressure. With the provision of a CEMP to prevent waterborne pollutants during construction and the employment of the drainage scheme which should meet legislation and guidance with regard to treating waterborne pollutants within run off on site, **no residual impact** is predicted.

Brockhurst Wood & Gill& Morris's Wood LWS

5.30 This is a non-statutory site designated for its woodland habitats, including areas on or adjacent to the stream. The site also has a species-rich ground flora in places, particularly alongside the stream banks which support a number of mosses and liverworts. As the site is located approximately 800m northeast, no direct negative impacts would be anticipated from construction or during operational phase of the proposals.

5.31 Due to the distance of the site from proposed development, and as the site is partly managed for public use, with some areas managed for coppicing, it is considered that the potential increase in recreational use over the site would be minimal. As such, it is considered that the proposals would result in no residual effect on the designated site.

6.0 Cumulative effects

6.1 Cumulative effects are those arising from individually insignificant actions that, when combined, result in a significant effect to an ecological feature that is greater than the sum of its parts. Considered in isolation, such individual impacts can be overlooked or not sufficiently scrutinised. It is therefore an important feature of the ecological impact assessment process to identify cumulative impacts.

6.2 It is noted that a sizeable development was approved for on land to the east of Langhurstwood Road for 'a mixed use strategic development to include housing (up to 2,750 dwellings), business park (up to 46,450 m2), retail, community centre, leisure facilities, education facilities, public open space, landscaping and related infrastructure'.

This was approved for outline at outline stage as part of DC/16/1677 and has since been subject to a range of discharge of condition applications for reserved matters. All consented developments are all required, as a result of the planning process, to minimise effects on ecology through mitigation measures. The granting of planning permission for these sites have been a result of assessing potential impacts on surrounding habitats, including designated sites, as required by law and policy. This includes assessing the impacts alone and in combination with other projects and plans within the local landscape.

6.3 Assuming that the nearby developments have mitigation in place to negate any potential negative effects such as increased surface water run-off, atmospheric pollution or increased visitor pressure, a cumulative impact from the developments would be insignificant. This is especially important for the large housing development to the east of the site (DC/16/1677) as the development in combination with the application site could cause habitat fragmentation. However, the Ecological Mitigation and Management Plan submitted for the site set out steps to retain key habitats and wildlife corridors, such as ditches and hedgerows, as to minimise the impact on ecology within and around the site. On top of this, much of the existing woodland areas are being retained, and multiple new wildlife areas are being created, such as wildflower areas, hedgerows, wetland areas, and scrub planting. Overall, it is considered that with the applications design which retains the most important ecological habitats as well as the steps taken in the neighbouring development, that a cumulative impact from the developments would be insignificant.

6.4 Assuming that nearby developments have mitigation in place to negate any potential negative effects such as increased visitor pressure on surrounding habitats, biodiversity net gain requirements and that protected species surveys have been conducted, a cumulative impact from the developments would be insignificant.

7.0 Compensation

7.1 It is recommended that the compensation methods, outlined below, are included as part of planning conditions for the outline planning application. In this development, compensation covers the loss of the field margin habitats which are to be removed as a

result of the development and the small losses of hedgerows and tree lines which have been required for removal to allow for access. Compensation addresses the loss of habitat, which could not be avoided through the development plans.

Lowland mixed deciduous woodland (priority habitat)

7.2 A loss of a small parcel of priority woodland will occur on site. Although compensation planting cannot be achieved on site, off site credits will be purchased as part of the BNG agreement for site, this will ensure that the loss of this habitat is compensated for by meeting the trading summary rules. Although there will be a negative impact on site, there will be **no residual impact** through offsite offsetting and habitat creation.

Priority Hedgerow – Native Hedgerow with Trees

7.3 Replacement of the small section of priority hedgerow on site will be compensated for by the planting of extensive areas of species rich native hedgerow on site, as such **no residual impact** is anticipated for priority hedgerow habitats onsite.

Habitats

7.4 Although a minor net loss will occur on site as part of BNG, large swathes of wildflower planting will be included on site along with new scrub planting and the planting of 403 trees within communal areas, as well a many more within private garden habitats. SuDS have been designed to support wildlife and provide additional habitat on site. Losses to habitat units and watercourse units as part of the BNG will be bought of site, this will ensure **no residual impacts** for habitats through offsite creation and provision.

Bats

7.5 The creation of new features for bats on site, including extensive new native hedgerow and tree planting a long with a large amount of wildflower grassland and additional scrub planting and wildlife friendly SuDs, will mitigate the loss of any small areas of hedgerow, scrub and woodland on site.

7.6 The erection of a bat box upon a mature tree on the south site of Mercer Road will be undertaken to compensate for the loss of the historical bat roost within the tree that is no longer present on site. If the above are put in place then it is considered that there will be **no residual impact** upon roosting bats on site.

Reptiles

7.7 Small areas of reptile suitable habitat are to be removed as part of the proposals. However, as compensation in the form of habitat creation around the edges of the site are already incorporated into the final design, no further compensation measures are seen to be required. It is considered that if the new habitat creation and mitigation measures are followed, there will be **no residual impact**.

Birds

7.8 With replacement habitat planted and provision of compensatory bird boxes, no residual impact is predicted.

Hedgehogs

7.9 The new high quality habitat creation included within the development will compensate for the loss of nesting and foraging habitat, result in a net gain of suitable breeding and foraging habitat for hedgehogs post development. As such, there will be no residual impacts.

8.0 Enhancement

8.1 Biodiversity gain, to meet NPPF and the Environment Act, is proposed and should be secured by planning condition. The following enhancements are proposed are to be incorporated into the site design:

- Provision of bird boxes on trees and buildings;
- Provision of bat boxes on trees and buildings;
- Provision of bee bricks within new buildings;

- Landscape strategy includes additional native tree and scrub planting, meadows, hedgerow, SUDS, enhancing the site for commuting and foraging bats, dormice, reptiles, [redacted] nesting birds, hedgehogs and invertebrates;
- Long-term management of retained and newly created wildlife areas outside of residential curtilage to benefit wildlife and biodiversity;
- Provisions of additional log/brash pile habitats for reptiles, GCN, small mammals and invertebrates; and
- Purchase of offsite credits to satisfy trading summary and net gain for habitat and watercourse units.
- An onsite net gain for hedgerow units is achieved on site of 12.40%.
- Removal of giant hogweed across the site is seen as mitigation to prevent the spread during construction, overall it forms an enhancement by being eradicated from site.

9.0 Monitoring

9.1 Ecological clerk of works tasks will be required during construction, to ensure there is no change in the baseline that may alter the implementation of the development.

9.2 Prior to any development, a check for any evidence of [redacted] will be made. Any tree which is scheduled for removal will be re surveyed prior to felling to ensure compliance with legislative requirements. Sensitive clearance will take place under ecological supervision, including nesting bird checks and the sensitive removal of habitats for reptiles and other species such as hedgehog and stag beetle.

10.0 Summary

10.1 The table below summarised impacts on site to the various identified receptors. Monitoring works as detailed above will be undertaken before and during construction.

Table 7: Features of the site where significant effects are predicted to from the development

Feature	Effect type and magnitude	Mitigation	Residual effect	Compensation to remove residual effects	Residual effect after compensation	Enhancement/biodiversity gain
Designated sites						

Warnham Mill Pond LNR & LWS	**Negative**	Provision of CEMP to prevent waterborne pollution during construction. Provision of detailed drainage strategy to ensure no operational impacts from run-off into the on site stream	**Neutral**	N/A	**Neutral**	N/A
Priority and protected species and habitats						
Ancient Woodland	**Negative (Minor)** Disturbance or impacts such as dust of developing up to site boundary	Implementation of a 15m buffer zone, protection from CEMP	**Neutral**	N/A	**Neutral**	N/A
Veteran Tree	**Negative** Damage and disturbance during construction	Protection following Arboricultural advice	**Neutral**	N/A	**Neutral**	N/A
Lowland mixed deciduous woodland	**Negative** Loss of section of woodland on site for new road Increased disturbance from new residents	Protection of retained habitat during construction. Better management through habitat management plan	**Negative**	Offsite credits purchased to offsite impacts to woodland	**Neutral**	Appropriate long term management

Hedgerows	**Negative (Minor)** Loss of small sections of tree line	Restrict loss to as small an area as possible Protection during construction	**Negative (Minor)**	Creation of hedgerow planting	**Neutral**	Creation of new mixed species native hedgerow throughout the site Long term management for wildlife
Other Habitats	**Negative (Minor)** Small loss of trees, scrub, and grassland	Creation of new habitats on site, with extensive tree planting, wildflower grassland creation, scrub planting and wildlife friendly SuDS	**Negative (Minor)**	Purchasing of offsite biodiversity credits	**Neutral**	Ditch management and the removal of the invasive giant hogweed. Extensive tree planting across the site Purchase of offsite biodiversity credits to achieve 10% net gain overall
Bats (roosting)	**Negative (minor),** All current trees with bat roosts retained, historical bat roost in tree lost prior to latest site visit, may have been lost though natural causes	Retention of bat roost trees onsite Employment of sensitive lighting scheme	**Negative (Minor)** – historical roost loss	Erection of compensatory bat box on retained mature tree on southern side of Mercer Road	**Neutral**	Additional bat roosting boxes to be incorporated around the site.
Bats (foraging and commuting)	**Negative** temporary reduction in habitat, potential damage through artificial light.	Retention of vast majority of bat foraging and commuting habitat within the site and use of a sensitive lighting scheme.	**Negative (Minor)**	New hedge, scrub and tree planting to replace any features lost.	**Neutral**	Planting of additional foraging habitats for bats through SUDS, scrub and hedgerows.
Reptiles	**Negative (minor),** loss of individuals and temporary loss of habitat.	Sensitive clearance methods employed at the appropriate time of year under supervision of	**Negative (Minor)**	Replacement habitat created and	**Neutral**	Planting of additional habitat. Long-term management of the on-site edge habitats for the species Log piles added

	Potential predation from domestic cats from new residents.	an ecological clerk of works. Site designed to avoid impacting the majority of suitable habitat for these species. **Negative (minor)**				
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hedgehogs	**Negative (minor),** temporary reduction in foraging and commuting habitat .	Retention of vast majority of edge habitats which would be used for commuting and foraging.	**Neutral**	N/A	**Neutral**	Increase in variety of habitats on site
Stag Beetles	**Negative (minor)** Reduction of breeding habitat through removal of deadwood	If deadwood is present within construction zone, this should be moved to retained woodland habitat	**Neutral**	N/A	**Neutral**	None
Breeding birds (active nests, all species)	**Negative (Minor)**, damage to active nests	Retention of vast majority of edge habitats which would be	**Negative (Minor)**	Replacement habitat and habitat creation,	**Neutral**	Increase in tree planting / scrub and shrub planting across site with provision of additional bird boxes

	and loss of habitats. Potential predation from domestic cats from new residents.	used for commuting and foraging. Construction works timing outside of breeding bird season (BS42020: 2012)		nest box provision		
Giant Hogweed	**Negative (minor)** If left on site and allowed to spread possibly during construction.	Full survey and removal by specialist contractors prior to construction. **Neutral**	**Positive**	None	**Positive**	None

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The Ecology Partnership Ltd

Thorncroft Manor

Thorncroft Lane

Leatherhead

KT22 8JB

Tel: 01372 364 133

www.ecologypartnership.com

Approved by: Alexia Tamblyn MA (Oxon) MSc CEcol CEnv MCIEEM FRGS

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