Preliminary Ecological Appraisal

Land at Mercer Road, Horsham

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Contents

LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing. Whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date. This report provides a snapshot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited, or the site supports habitats which are densely vegetated, only dominant species may be recorded.

The recommendations 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

Background

1.1 The Ecology Partnership was commissioned by Riverdale Developments Ltd to undertake a Preliminary Ecological Appraisal (PEA) of land at Mercer Road, Warnham, Horsham, West Sussex, RH12 3RL.

1.2 The Key objectives of a PEA (CIEEM 2017) are to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy' (CIEEM 2016; BSI 2013, Clause 5.2);
- Identify any additional surveys that may be required to inform and Ecological Impact Assessment (EcIA); and
- Identify opportunities offered by a project to deliver ecological enhancement.

1.3 This report comprises:

- The legislative and planning context (Section 1);
- Assessment methodologies (Section 2);
- Results (Section 3);
- Implication for development (Section 4);
- An impact assessment (Section 5);
- Conclusions (Section 6).

Site Context

1.4 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. It is situated within a rural setting close to Warnham Railway Station, north of Horsham in West Sussex (central grid reference: TQ 17340 33825).

1.5 The approximate red line boundary of the site and the immediate surrounding area are shown in Figure 1.

Proposed development

1.6 The current proposals are for a new housing estate, associated access and landscaping.

Figure 1: Approximate location of the red line boundary and immediate surroundings (Taken from Google Earth Pro November 2023, imagery date: 05/08/2024)

Figure 2: Current site proposals (taken from CYMK Drawing: 1644 / P / 10.04, November 2024)

Relevant Planning Policies and Legislation

1.7 The site was surveyed to assess its ecological value and to ensure the proposals were compliant with relevant planning policy and legislation. Policy guidance is provided by the National Planning Policy Framework (NPPF 2024) as well as the Horsham District Planning Framework (2015). These policies included the following which are considered relevant to ecology, biodiversity, and nature conservation:

Horsham District Planning Framework (2015):

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

1.8 The Environment Bill (Environment Act 2021) received Royal Assent on the 9th of November 2021 and is now an Act of Parliament (Law). The Environment Act 2021 outlines the requirement for granted developments to provide a biodiversity value post-development which exceeds the pre-development biodiversity value of the on-site habitat by at least 10%. Proposals also need to provide a net gain in biodiversity in accordance with the NPPF.

1.9 The assessment also takes into consideration nature conservation and wildlife legislation including, but not limited to, the Wildlife and Countryside Act 1981 (as amended), the Natural Environment and Rural Communities (NERC) Act 2006 and the Conservation of Habitats and Species Regulation 2017.

1.10 The report has been produced with reference to current guidelines for preliminary ecological appraisal (CIEEM 2017) and in accordance with BS 42020:2013 Biodiversity – Code of Practice for Planning and Development.

2.0 Methodology

Desktop Study

2.1 A desktop study search was completed using an internet-based mapping service (magic.defra.gov.uk) for statutory designated sites and an internet-based aerial mapping service (maps.google.co.uk) was used to understand the habitats present in and around the survey area, including identifying habitat linkages and features (ponds, woodlands, etc.)

within the wider landscape. In addition to this, biological records were requested from the Sussex Biodiversity Records Centre with a search radius of 2km around the site. This includes protected species and non-statutory designated sites and habitats.

Preliminary Ecological Appraisal

2.2 A preliminary ecological appraisal was undertaken on the 24th May 2024 by Chris Jennings BSc (Hons) MSc MCIEEM and Alice Bailey BSc (Hons) ACIEEM. 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.

2.3 In addition, the abundance of plant species in each habitat were also recorded using the DAFOR scale. This assigns species abundance to one of the following categories: Dominant, Abundant, Frequent, Occasional, or Rare.

Protected Species Assessments

2.4 Any evidence of protected species was recorded. Standard methods of search and measures of presence, or likely presence based on habitat suitability, were used for: bats in trees and buildings (Collins 2023), breeding birds (BTO 2020), dormice (Bright *et al*. 2006), great crested newt (ARG 2010), reptiles (Froglife 2015), [redacted] (Creswell *et al*. 1990) and water voles (Strachan *et al*. 2011).

Limitations

2.5 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 one site visit, as such seasonal variations cannot be 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.

2.6 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on site, based on the suitability of the habitat and any direct evidence on site. It should not be taken as providing a full and definitive summary of any protected species group. The assessment is only valid for the time when the survey was carried out. Additional surveys may be recommended if, on the basis of this assessment, it is considered reasonably likely that protected species may be present.

3.0 Previous Surveys

Phase 1 Habitat survey

3.1 An extended Phase 1 Habitat survey was conducted on site by The Ecology Partnership in August 2020 in order to inform a Preliminary Ecological Appraisal (PEA), with a previous survey conducted in 2017. The surveyors identified the habitats present, following the standard 'Phase 1 habitat survey' auditing method developed by the Joint Nature Conservancy Council (JNCC). The Ecology Partnership surveyed the site on foot and the existing habitats and land uses were recorded on an appropriately scaled map (JNCC 2010). In addition, the dominant plant species in each habitat were recorded. The "extended Phase 1" comprised in addition a search for evidence of protected species, assessment of the potential for the site to support protected species, and identification of Section 41 habitats.

3.2 During the 2020 site visit, the site was largely unchanged since the previous PEA in 2017, with the site mainly comprised of fields of species-poor semi-improved grassland. The other habitats noted on-site included: intact hedgerows; intact hedgerows with trees; a running stream; patches of bare earth; areas of tall ruderals; dense scrub; deciduous woodland; lines of trees; three buildings, a pond and a patch of semi-improved/wet grassland (Figure 3).

3.3 All the fields on site had very short sward height and similar species compositions due to intense management both from horse grazing as well as a regular mowing regime.

3.4 The main habitats of note on the site were the mature broad-leaved woodlands, scattered trees with roosting bat potential, hedgerows and tree lines on site.

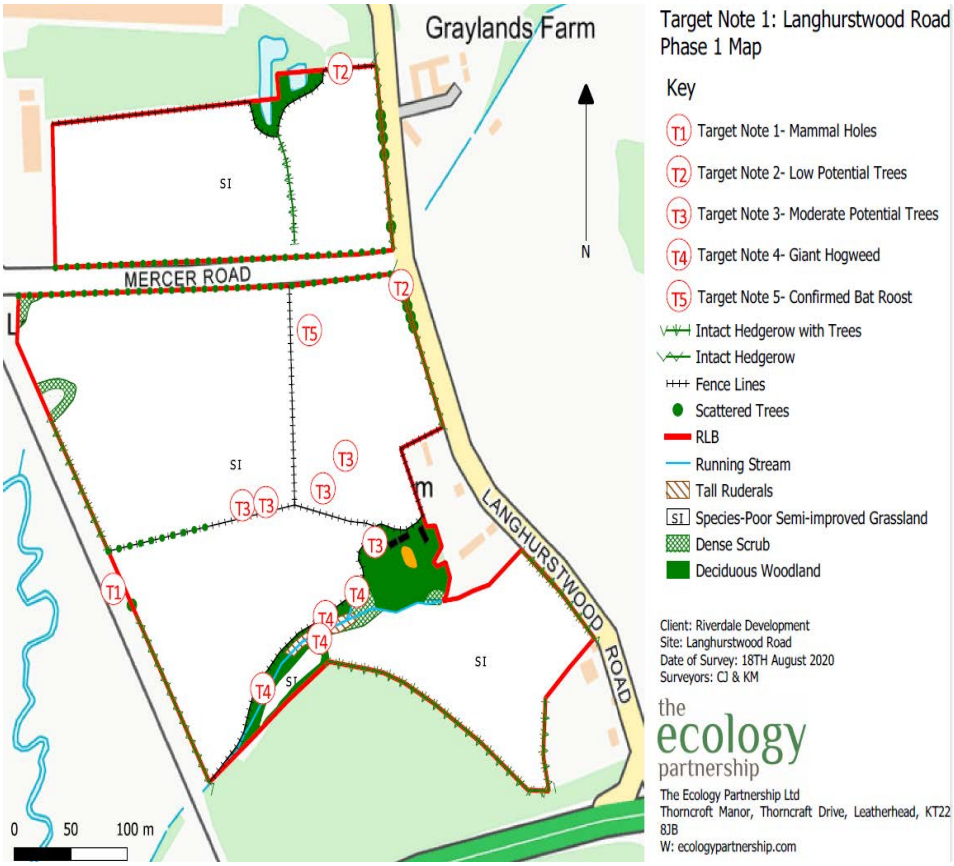

Figure 3: Phase 1 Habitat map for the site mapped using former JNCC guidance

Protected Species Surveys

3.5 As part of the PEA, a desk study and protected species assessment was conducted of the site, to identify the need for any further protected species surveys to ascertain the use of the site by these species, and if required recommend appropriate mitigation.

3.6 The site was thought to have potential to support the following protected species groups/species: bats, hazel dormouse, great crested newt (GCN), breeding birds, and, reptiles. Further survey work in 2020 was considered unnecessary for breeding birds, dormice and GCN due to the results of previous survey work. A summary of the survey previously completed work completed is set out in the table below.

Table 1 Species surveys

Faunal Group	Survey Methodology	Date of Surveys	Guidance
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 was assessed in accordance with the criteria set out in the Bat Conservation Trust guidelines (Collins, 2016)	**11th April 2017,** **18th August 2020**	Bat Surveys – Good Practice Guidelines 3rd edition (Collins, 2016).
Bats – building inspection	During the PEA, buildings and structures on site were assessed internally and externally for evidence of bats and features which could serve as potential roosts. Further surveys were conducted depending on their potential for roosting bats.	**11th April 2017,** **18th August 2020**	Bat Conservation Trust (BCT) guidelines (Colins 2016)
Bats – roost surveys	Surveys work was undertaken on trees with bat potential that were likely to be impacted by proposals. Dusk emergence surveys commenced at least 15 minutes before sunset until 2 hours after sunset, during which time, bats were identified and recorded. These surveys were undertaken during suitable weather conditions, when conditions are relatively dry and mild with little/no wind. Surveyors were positioned in such a way as to cover areas of interest and any activity around the subject tree.	**16th July 2018, 15th** and **29th June 2018.** **21st July 2020**; and **19th August 2020**.	Bat Conservation Trust (BCT) guidelines (Colins 2016)
Bat – activity 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. Two predetermined transect routes were agreed and followed for the duration of the survey, during which bat activity was recorded. The transects were walked twice during the surveys.	**24th July, 31st August, 25th September 2017** and **10th May** and **18th June 2018.** **28th July, 19th August and** **13th September 2020.**	Bat Conservation Trust (BCT) guidelines (Colins 2016)
Bat- 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	Anabat expresses deployed on the **31st August, 25th September, 10th May** and **18th June 2018**. Subsequent Anabat expresses were deployed on the **28th July, 10th**	Bat Conservation Trust (BCT) guidelines (Colins 2016)

	were left on site for five consecutive nights and then collected in for analysis.	**August** and **19th September 2020**.	
[redacted]	[redacted]	[redacted]	[redacted]
Dormice	During the PEA, all habitats potentially suitable for dormice were systematically examined for evidence of dormice activity and potential.	Search for potential and activity on **11th April 2017** and **18th August 2020**	Bright *et al.* 2006
Reptiles	Previous survey work was undertaken within suitable habitat within the field margins.	7 survey visits undertaken **1st September 2017 – 27th September 2017** Repeated **26th August – 9th September 2020**	Froglife (1999) and Gent and Gibson (1998)
Great Crested Newts HSI	Four waterbodies present on site with a further three waterbodies other accessible waterbodies assessed	**11th April 2017** and **18th August 2020**	Oldham at al. 2000
Great crested newts eDNA	The ponds within the site as well as one of the off-site ponds had water samples taken from them and sent off for analysis.	**13th July 2017**	Following protocol stated in DEFRA WC1067
Great crested newts traditional measures	The ponds within the site as well as one of the off-site ponds were surveyed using traditional GCN survey techniques, including: bottle trapping; egg searches; torching and netting	**4th April and 25th April 2019.**	Surveys were undertaken in line with the GCN mitigation guidelines (Natural England 2001).

Protected Species Surveys

Bats

3.7 Following the identification of bat roosting potential the large oak dead tree (T5 in figure 3) which was set to be removed as part of the proposals, three emergence/ re-entry surveys were conducted between June and July 2018. The surveys indicated the tree was an active bat roost for at least three species of bat: common pipistrelle, soprano pipistrelle and likely Natterer's. It was be noted that the confidence in *Myotis* species identification was low owing to a number of non-echolocating bats and a lack of clear recorded passes with diagnostic features. Two further emergence surveys were scheduled on the tree in 2020, The results of the surveys identified a single common pipistrelle and myotis emerging from the tree on the 21st July 2020. Multiple other trees around the site were identified as having roosting bat potential, but as they were not set to be impacted by the proposals, no further bat surveys were conducted on them.

3.8 The buildings / structures that were identified on site were all identified as having 'negligible' roosting bat potential in 2017 and again in 2020, and as such no further bat surveys were considered necessary.

3.9 The linear hedgerows, as well as the woodland and scrub, provide foraging and commuting opportunities for bats in the local area. The running stream and pond additional opportunities for bats. Overall, the site was considered to have moderate habitat suitability of foraging and commuting bats, owing to these linear features, some of which connected to ancient woodland.

3.10 The transect surveys which were undertaken from 2017 and 2018 indicated a variable levels of bat activity both across the site and between surveys. The most frequently recorded species were common and soprano pipistrelle, both of which are a commonly distributed species of bat in the UK, other species included occasional noctule and low numbers of Myotis and serotine. The update surveys in 2020 found very similar results, as common pipistrelles were the most frequent and soprano pipistrelles, noctules and myotis were only picked up in low numbers, no other bat species were recorded during the surveys.

3.11 Remote recording surveys in 2020 identified multiple bat species including: common pipistrelles (16816 passes); soprano pipistrelles (4502 passes); brown long-eared bats (94 passes); Leisler's (114 passes); Myotis (1178 passes); noctule (1490 passes); and serotine (65 passes) with a total of 24,259 passes over the survey period. The only species not picked up during the 2020 remote recording surveys that were previously identified on site were of low

numbers of Daubenton's and Natterers and a previous single pass of a barbastelle during the 2017-2018 survey period.

[redacted]

Reptiles

3.13 The majority of 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 a suspected 'low' population of grass snakes due to the presence of juveniles on the site during the reptile checks in 2017. In addition, slow worms, common lizards, and grass snakes have all been recorded within 1km of the site since 2017.

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

Hazel Dormice

3.15 Dormouse surveys had been previously carried out in between June 2017 and June 2018, with no dormice or evidence of their presence identified over the survey period, and thus were considered to be likely absent from the site.

Great crested newts

3.16 A total of 9 potential ponds were found within a 250m radius of the site, with four of them located within the site itself (Figure 4).

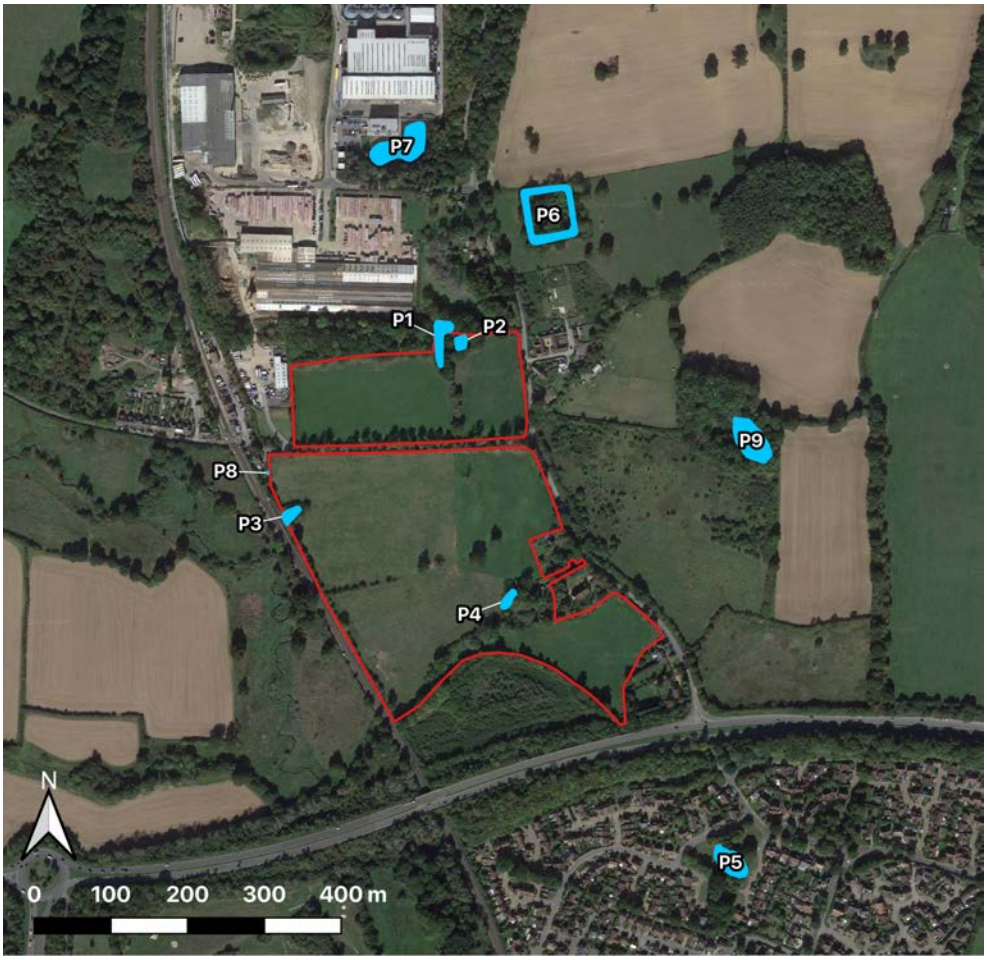

Figure 4. Location of ponds within 250m of the sites red line boundary Taken using Google Earth Pro (2019)

3.17 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, 7 and 9 were not surveyed at the time.

3.18 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. Potential Ponds 6, 7 and 9 were situated outside the site boundary on private land. Access to survey the ponds was requested but no response was provided by the landowners, it is therefore assumed the request was refused and the ponds could not be surveyed. Pond 8 was not surveyed in 2019; the pond was considered highly unsuitable for GCN owing to its small size and presence of fish.

3.19 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 one surveys 1 and 2, the water level was too shallow on surveys 3 and 4, netting was used instead on these surveys.

Table 2: 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	N/A	0.33	Poor	N/A

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

Breeding birds

3.21 The SxBRC data indicated the presence of a number of breeding species within proximity to the site. The 2018 breeding bird survey under recorded 26 species of which at least 18 were considered breeding within the red line, including the priority species yellowhammer, dunnock, starling, house sparrow and song thrush.

3.22 Starling and house sparrow may breed in buildings in the south of the site and there was some evidence that further individuals of these species likely nesting in adjacent residential properties outside the site foraged on the site. Song thrush and dunnock may nest in the site's hedgerows and woodland.

Other Species

3.23 Records of hedgehogs within 2km of the site were identified within the records search, with the closest being approximately 140m west of the site in April 2017. The habitats present around the perimeter of much of the site also provide suitable foraging and commuting habitat for hedgehogs. However, as the majority of the perimeter/ edge habitats are being retained and enhanced within the proposals, no significant potential impacts are considered likely.

3.24 Habitats on site were largely sub-optimal for invertebrates, due to the dominance of the species-poor grassland over the site, the exception being the boundary scrub and mature trees. However, as these invertebrate suitable habitats are being retained within the proposals, significant potential impacts are considered unlikely.

4.0 Results

Desktop Study

4.1 There were no internationally designated sites within 15km of the proposed development boundary. The nearest internationally designated site was The Mens Special Area of Conservation (SAC), located 15.7km south-west of site.

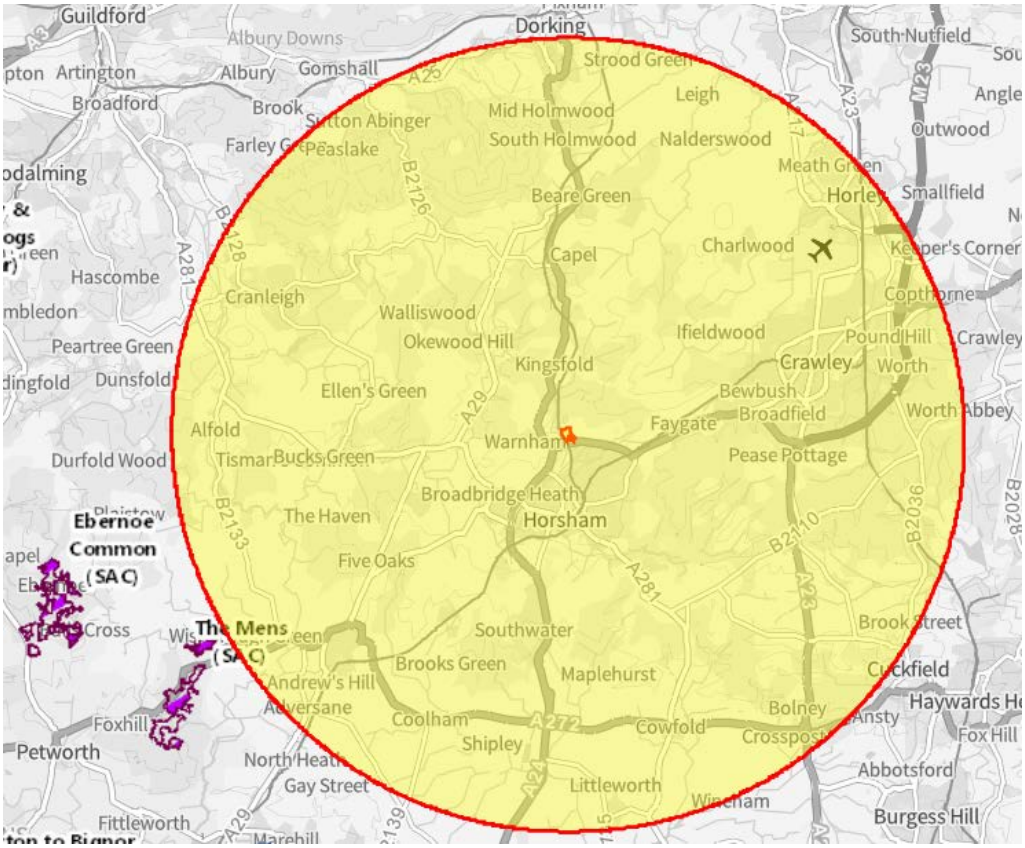

Figure 5: Internationally designated sites within 15km of the proposed development site.

4.2 There were two nationally designated sites within 1km of the proposed development boundary. Warnham Local Nature Reserve (LNR) was the closest of these of these, located approximately 150m south of site. Warnham Site of Special Scientific Interest (SSSI) not contiguous with the synonymous LNR, was located approximately 850m north of site. The SSSI is designated for geological reasons and is not of ecological importance and as such isn't considered a constraint to development with regards to ecology.

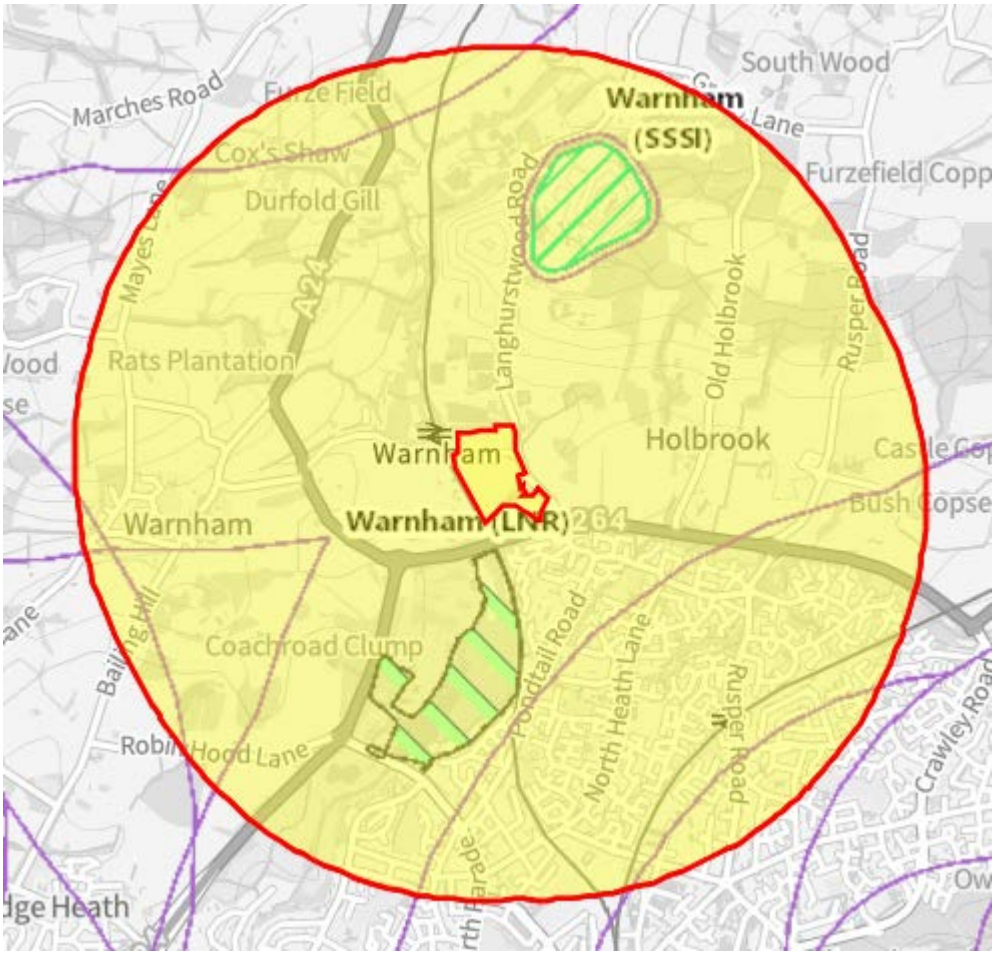

Figure 6: Nationally designated sites within 1km of the proposed development site

4.3 There were three non-statutory designated sites located within a 2km radius of the red line boundary:

- Warnham Mill Pond (LWS), approximately 140m south of the site.
- Brookhurst Wood & Gill & Morris's Wood (LWS) approximately 800m northeast of the site.
- Warnham Brick Pit, Horsham (LGS) approximately 850m north of site.

4.4 There are a number of priority habitats within 2km of the red line boundary, based on (Figure 7):

- 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 northern 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 7: 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 8: 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)

4.5 There were eight ponds located within a 250m radius of the red line boundary according to magic maps and OS mapping. Previously a potential waterbody was identified to the east of site in Barn Coppice, previously labelled pond 9. This is not indicated on latest OS mapping, with no current evidence of its existence it is not considered. Table 3 below lists them and their respective distances from site:

Table 3. Ponds 1-8 within 250m of site and their respective distances and directions from the nearest point of the boundary

Pond	Distance (m) and Direction
1	On site
2	On site
3	On site
4	On site
5	*c.* 118m NE
6	*c.* 228m N
7	*c.* 210m S
8	On western boundary (off-site)

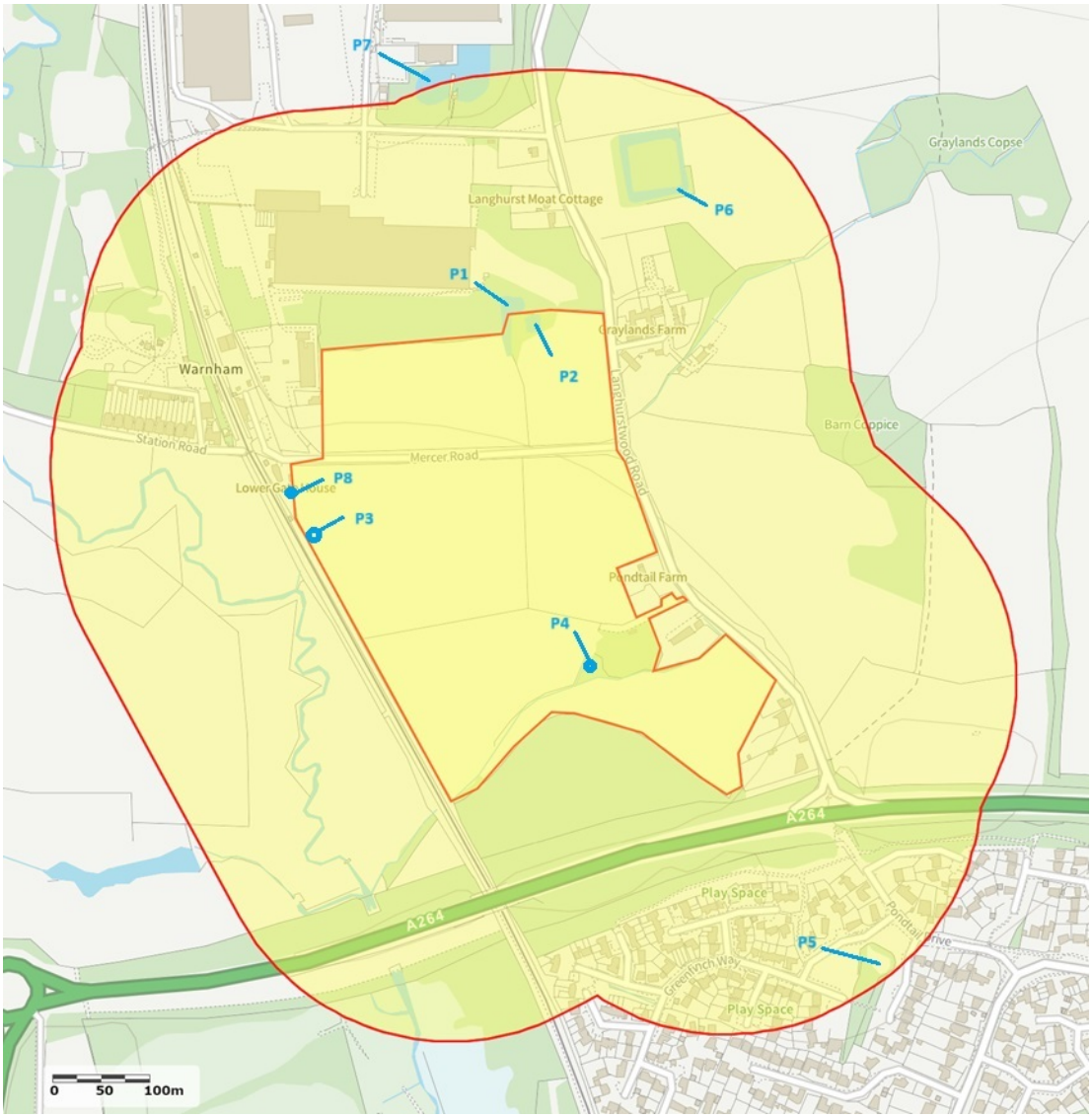

Figure 9. Location of ponds within 250m of the sites red line boundary Taken using Magic Maps

4.6 A search via MAGIC maps found several European Protected Species (EPS) licences within 2km of the site, including:

- Bat licence: 2019-40731-EPS-MIT destruction of a resting place for common pipistrelle, soprano pipistrelle and Daubenton's bats, approximately 600m north.
- Bat licence: 2017-31475-EPS-MIT destruction of a resting place for brown long eared bats, approximately 1.3km west.
- Bat licence: 2015-8735-EPS-MIT destruction of a resting place for brown long eared and common pipistrelle, approximately 950m southeast.
- GCN licence: 2019-39148-EPS-MIT-3 destruction of a breeding site and destruction of a resting place, approximately 1.5km north.

- GCN licence: EPSM2008-37 destruction of a breeding site and destruction of a resting place, approximately 300m north.
- GCN licence: 2020-44385-EPS-MIT-1 destruction of a resting place, approximately 1.6km east.
- Dormouse licence: 2019-44250-EPS-MIT destruction of a breeding site and destruction of a resting place, approximately 1.3km east.
- Dormouse licence: 2019-42626-EPS-MIT destruction of a breeding site and destruction of a resting place, approximately 1.2km east.

4.7 A total of nine GCN Class Survey Licence Returns were identified within 2km of the site boundary, the closest of which being approximately 150m northeast of the site (Figure 10)

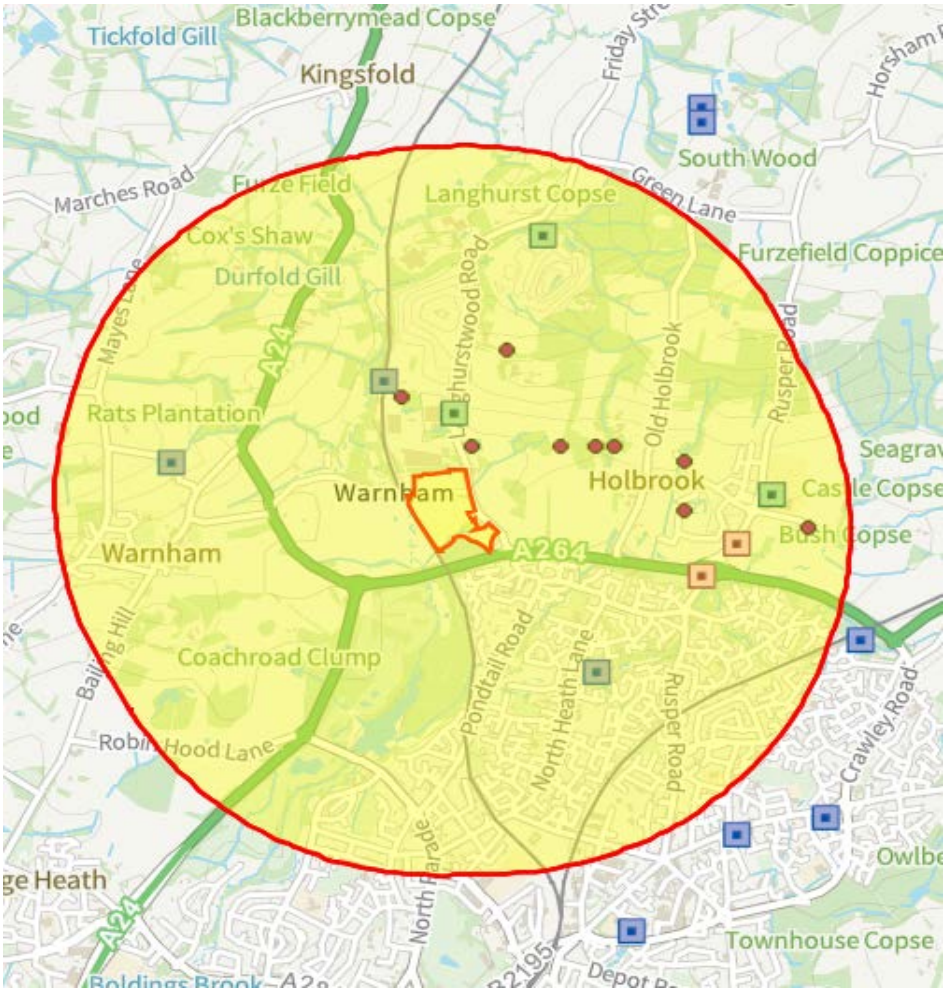

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Figure 10: EPS licences within 2km of the red line boundary. Blue square: bats, green square: GCN, pink square: dormice, purple circle: GCN Class Survey Licence Returns

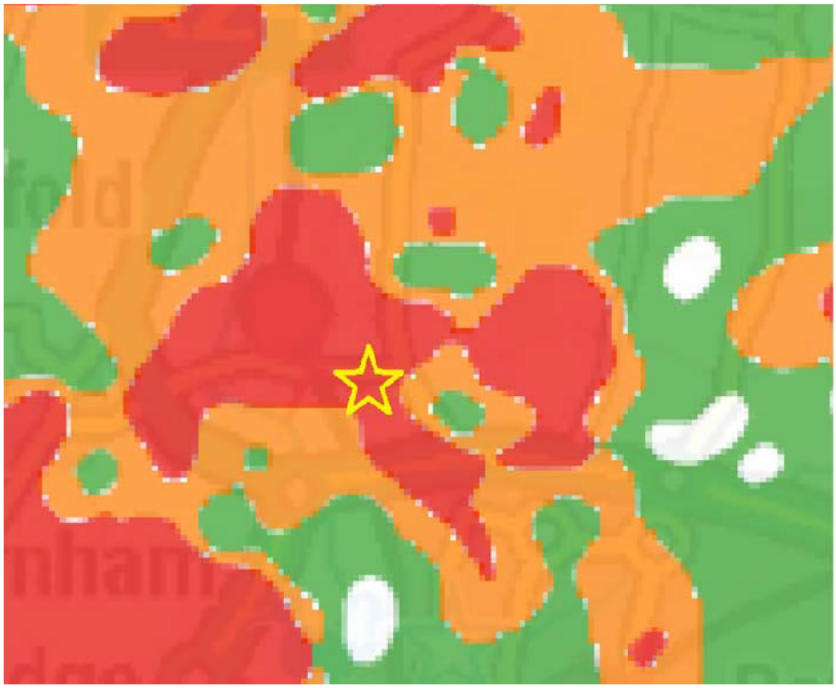

Figure 11: NatureSpace have mapped the site within a 'red zone' (Yellow star roughly indicates the site) location

4.8 NatureSpace who run the district licencing scheme in Horsham have roughly mapped known GCN distribution and potential suitable habitat for the species. They have indicated that the site falls within a 'red zone' which is classed as highly suitable habitat.

4.9 A 2km biological records search was requested from Sussex Biodiversity Record Centre. The records closest to site, recorded within the last 10 years, and relevant to the habitats on site, have been included in Table 4. The record summary page is given in Appendix 4.

Table 4: 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 cristatus*	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
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	c.1.6km northwest (07/07/2022)	07/07/2022

	Countryside Act (1981 as amended) Sch 5 s9.4b/c		
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

Habitat Survey

4.10 The site is dominated by paddocks, which are grazed on rotation by horses as well as topped for hay. The site boundaries contain a mixture of other habitats including broadleaved woodland, mixed scrub, tree lines, hedgerows and a stream.

4.11 A detailed habitat map is attached in Appendix 1, site photos in Appendix 2, and a full species list is provided in Appendix 3.

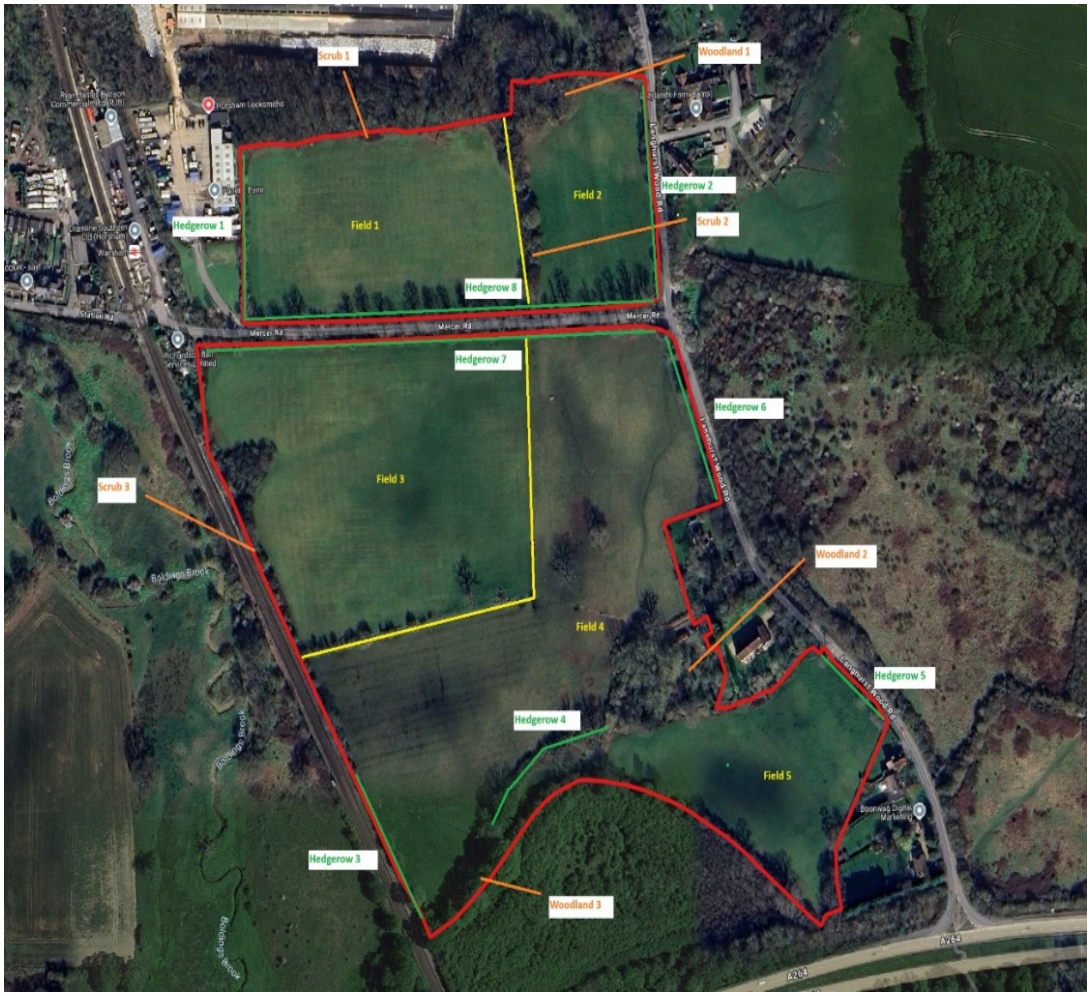

Figure 12: Showing individual paddocks on site at time of survey which were under different management rotations as well as locations of different hedgerows, scrub and woodland parcels referred to below

Modified grassland (g4 103 109)

4.12 Three distinct areas of modified grassland were present on site. These areas were present to the northeast of the site (Field 2), a large proportion of the mid-section of the site, (Field 4, apart from the western end of this paddock, as well as the paddock to the south of the site (Field 5).

4.13 Field 2 was of a long sward height at the time of both the May and August surveys. The grassland was dominated by grasses with perennial rye grass, meadow foxtail, cocksfoot, Yorkshire fog. The field contained little in the way of herbs, with occasional creeping cinquefoil and rare meadow butter cup and cuckoo flower. The field was species poor with an average of four species per m^2. The field appears to have been seeded or subject to intensive management due to its low herb percentage which was less than 75%.

4.14 The majority of Field 4 contained abundant perennial rye grass, Yorkshire fog, and white clover. Other species present included common bent, creeping thistle, selfheal. Rare occurrences of common ragwort, meadow foxtail, marsh cudweed, meadow buttercup and red bartsia were also noted. The field was again species poor with an average of four species for m^2 and a high cover of perennial rye grass and white clover. The field is heavily grazed on rotation. The field had been heavily grazed during the May survey, but was at a long sward height during the return visit in August.

4.15 Field 5 was again dominated by grasses with Yorkshire fog, meadow foxtail and perennial rye grass, with occasional creeping buttercup and rare occurrences of white clover, time-leaved speedwell, meadow buttercup, common mouse-ear and selfheal. The grassland was considered modified due to its poor species diversity averaging 4 species per m^2 and low coverage of herbs (less than 75%). Some herbs were present but these were in low number and scattered sparsely often individual plants, with a higher concentration within a poached area close to the stream. The field is heavily grazed by horses and is exposed to high nutrient levels. The field was at a short sward during the May survey and was actively grazed, the field had been left fallow with a longer sward during the August although still relatively short still due to ongoing rotation of horses.

Other neutral grassland (g3c 103 109)

4.16 Three parcels of other neutral grassland were present on site. Field 1 was present to the north of the site. The grassland contained a mix of grasses and herbs. The site contained Yorkshire fog, sweet vernal grass, cocksfoot, soft brome, red fescue and meadow foxtail, with rare

perennial rye grass and crested dogstail. Herb species included abundant creeping thistle, as well as occasional common vetch, common mouse-ear, and creeping buttercup with rarely occurring common sorrel, hairy tare, white clover, red clover and cuckoo flower. The grassland was at a long sward at the time of the survey and is believed to be less intensively grazed than much of the rest of the site, in August it appeared the field had been topped for hay.

4.17 Field 3 was at a long sward height during the May survey with sweet vernal grass, Yorkshire fog, rough meadow grass, soft brome and rare crested dogstail. Herbs present included frequent meadow buttercup, with hairy tare, common mouse ear, white clover, creeping buttercup and localised creeping thistle close to the vehicular entrance. The field had a lack of perennial rye grass and appeared to be more natural in composition, although still relatively species poor this is likely due to use for horse grazing on rotation and indeed the field was grazed by horses during the return August visit.

4.18 The western section of field 4 was a continuation of the grassland observed in field 3 along the railway boundary and along a section of the grassland adjacent to the northern bank of the stream was considered other neutral grassland. This was due to a lack of perennial rye grass and white clover, the proliferation of grasses such as sweet vernal grass, Yorkshire fog with herbs such as birdsfoot trefoil and creeping cinquefoil, other species noted were rarely occurring black knapweed and some local distribution of meadow barley. The grassland parcel covered between fields 3 and 4 averaged at 6 species per m^2.

Lowland mixed deciduous woodland (w1f 28 – 30 northern 'woodland 1' parcel only)

4.19 Broadleaved woodland was present to the north of the site 'woodland 1'. This habitat ran along the northern boundary and encroached into the site, along the eastern part of the northern boundary. Sections of this habitat have been identified as ancient and semi-natural woodland and contained mature trees dominated by English oak with hazel and hawthorn.

4.20 A second parcel 'woodland 2' was present along the eastern boundary in the mid-section of the site stretching north from the stream that flows through the site. This habitat contained mature English oak, ash and sycamore, with goat willow, hawthorn and holly. A veteran English oak is present on the northern boundary located on the north side of a small access track. Giant hogweed growth was noted throughout the woodland block, which is a schedule 9 invasive species under the Wildlife and Countryside Act 1981. Other ground flora included

wood dock, wood avens, cut-leaved cranesbill, bramble, common ragwort, tufted vetch and red campion.

4.21 Much of the southern boundary of the site borders an offsite woodland. A small strip of this habitat was mapped as encroaching into site at the western end of the site, along the southern bank of the stream that flows through site and is labelled 'woodland 3'. This was dominated by English oak with ash.

Mixed Scrub (h3h)

4.22 Two areas of mixed scrub were noted on site. Between field 1 and 2 an area of mixed scrub (scrub 1) stretched south from the area of ancient woodland. This did contain some scattered mature trees, but was largely habitat less than 5m in height, and contained elder, field maple, hazel, blackthorn, oak and bramble.

4.23 The largest expanse of mixed scrub ran along the western boundary of fields 3 and 4 along the boundary with the railway embankment noted as 'scrub 3'. A section of goat willow surrounded pond 3 which was found within this habitat and also thin scattered strip ran into site along the boundary of fields 3 and 4. This habitat contained hawthorn, elder, dogrose, goat willow, ash and bramble. Giant hogweed an invasive plant species was noted along the southern section of this habitat.

Blackthorn Scrub (h3a)

4.24 A small section was noted encroaching the field to the west of the northern boundary. This contained blackthorn with bramble and is referred to as scrub 2 and was considered to be blackthorn scrub.

Scattered Trees (u1 32)

4.25 There are scattered trees across the parcel of the site south of Mercer Road, with 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 south western 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.

Buildings (u1b5)

4.26 There was one permanent building (building 1) on site this was a defunct and abandoned building close to the eastern boundary close to the woodland block.

Artificial unvegetated – unsealed surface (u1c)

4.27 This was used to describe two temporary buildings on site which were in the form the backs of old lorries / container style structures, these were laid on bare ground. These were located close to building 1.

Pond (r1 41)

4.28 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

4.29 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.

Stream – Other Rivers and Streams (r2b)

4.30 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.

Sparsely vegetated urban land (u1f 16 81)

4.31 A small area of tall forms was present around the building and temporary building to the east of the site. This area was disturbed ground on the woodland edge, which had grown up around a vehicular access associated around the structures.

Native Hedgerow (h2a)

4.32 A hedgerow (H1) was present along the western boundary of grassland 1 in the northern parcel on site, this habitat was dominated by blackthorn, with occasional bramble and elder and oak found rarely along the stretch.

4.33 The remaining other hedgerows on site all contained mature trees as well as native hedgerow species. H2 was located on the western boundary of grassland 2 alongside Langhurstwood Road, this was dominated by blackthorn, with other species such as elder and hawthorn. This hedgerow also contained a number of wych elm trees.

4.34 H3 was located along the western boundary of grassland 4 adjacent to the railway line. This transitioned from scrub in the north to a more recognised hedgerow with blackthorn, spindle and dogrose. It should be noted that the invasive species giant hogweed was also present noted in numerous places along this field boundary. Ash was present within this habitat on at the northern and southern end.

4.35 A hedgerow (H4) ran along the northern bank of the stream which flows from east to west across site. This contained blackthorn, hazel with sizeable mature oak and ash trees. Giant hogweed was present in this feature along with common nettle.

4.36 H5 ran along the western boundary of the site with Langhurstwood Road to the south of the site in association with grassland 5. This hedgerow was dominated by blackthorn, with hawthorn and horse chestnut trees.

4.37 H6 again ran along Langhurstwood Road but this time along the western extent of grassland 4. This hedgerow was connected to TL2 at its northern extent. This contained abundant hawthorn with field maple. The hedgerow has scattered mature English oak, horse chestnut and large-leaved lime present, mostly concentrated to its northern extent.

4.38 H7 ran on the southern side of Mercer Road. This feature is likely a former tree line which has developed a hedgerow understorey to be come a hedgerow with trees. The feature contained horse chestnut. Large leaved lime, field maple and hawthorn. It should be noted that a stand of the invasive species giant hogweed was present along the stretch, target noted on the habitat map.

4.39 H8 ran along the northern side of Mercer Road and like H7 was likely a former tree line which had developed a hedgerow understorey. This contained large-leaved lime, horse chestnut, elder and hawthorn as well as bramble.

Target Notes [1]

Target Note 1 – 'PRF – I' Bat Potential Trees

4.40 Two oak trees were noted as having minor features which could potentially support low numbers or individual bats. On was on the northern edge of grassland 2 and the other present within the grassland 4.

Target Note 2 – 'PRF - M' Bat Potential Trees

4.41 Numerous trees were identified around the site as having potential to support numerous roosting bats including potential maternity roosts. These included mature oaks and ash trees.

Target Note 3 – Giant Hogweed

4.42 Giant hogweed was identified mainly along parts of the running stream on site, as well as the boundary next to the railway embankment, a small section on the southern side of Mercer Road and also within the eastern woodland block. Giant hogweed is listed as an invasive species under schedule 9 of the Wildlife and Countryside Act 1981. As a fast-growing plant, it is capable of outgrowing and shading out other species, it also presents a health hazard as the sap of the plant can cause blistering and scars.

Target Note 4 – Veteran English Oak Tree

4.43 A large veteran oak tree is present just to the north of the woodland on the eastern boundary. This is located on the northern side of the access track that comes into site from Langhurstwood Rd.

Protected Species

[redacted]

[1] The location of the Target Notes can be seen within the habitat map in Appendix 1.

Bats

4.27 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.

4.28 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.

4.29 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 arboricultral 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.

4.30 The linear hedgerows, as well as the woodland, provide foraging and commuting opportunities for bats in the local area. The running stream also provides good foraging and connectivity for bat species.

4.31 The transect surveys which were undertaken from July to September 2017 and May to June 2018 indicated a variable level of bat activity both across the site between surveys. The most frequently recorded species were common and soprano pipistrelle, both of which are a common species of bat, other species included occasional noctule and low numbers of *Myotis* and serotine.

4.32 Static recorders results largely reflected the findings of the activity transects, with common and soprano pipistrelle by far the most abundantly recorded species accounting for 82% of the total registrations, consistent numbers of noctule were also recorded on the Anabats. The remaining species included nathusius pipistrelle, barbastelle, Leisler, *Myotis sp.*, brown long-eared bat and serotine, accounting for less than 5% of the total registrations combined.

4.33 The rare Annex II listed barbastelle was recorded on site, albeit at very low frequency, comprised of a single pass on the August 2017 activity survey and five registrations across the Anabat survey nights. The site is therefore not considered to be a key foraging habitat for this species and more likely to serve as an occasional commuting corridor.

4.34 The habitats on site had not materially changed since the 2017 and 2018 surveys and are under the same management with regularly grass cutting or heavy horse grazing. This largely limits suitability for bats to the boundaries of the site, with tree lines, hedgerows, the stream, ponds, scrub as well as woodlands and woodland edges all providing good quality habitat for commuting and foraging bats.

Dormice

4.35 The ancient woodland to the north and the deciduous woodland habitats on site, were considered to provide some suitable habitat for dormice. In addition, boundary hedgerows and treelines also provided suitable connective and foraging habitat. These habitats contained a number of species of value to dormice, specifically bramble, hazel, oak, blackthorn and hawthorn. It should be noted that connectivity to surrounding woodland beyond those mentioned above is relatively limited. The site is disconnected from much of the wider landscape by roads, the railway line, industrial sites and low density housing.

4.36 Previous survey in 2017 and 2018 found no evidence of dormice. The habitats on site and management of the site had not significantly changed since the previous survey work, although considered unlikely that dormice would be present following the previous survey work, due to the length of time since this was undertaken it cannot be completely ruled out.

Great Crested Newts

4.37 Four water bodies were previously identified on site, with four more located in the wider landscape (Figure 9). Pond 1 was partially on site with around half the waterbody falling inside the red line boundary. Pond 2 was entirely onsite and located close to pond 1 within the woodland at the northern extent of the site. Pond 3 was located on the western boundary within a block of willow scrub. Pond 4 was located within the block of woodland on the eastern boundary. Pond 5 was located a considerable distance to the south and was separated from site by a number of barrier to dispersal including the A264. Pond 6 was located to the north east of the site and formed a moat type waterbody around a residential property, pond 7 was located north of the red line boundary within an industrial estate. Access to ponds 6 and 7 have not been possible. Pond 8 was located within a residential property on the western boundary.

4.38 As covered in the introduction section survey work has been undertaken across the onsite ponds over a number of years with initial Edna work undertaken in 2017 at ponds 1, 2, 3, 4, 5 and 8. All results were negative. Ponds 1, 2, 3, 4 and 5 were all surveyed following Natural England recognised presence absence method (i.e bottle trapping, torch survey etc) in 2019 again all generating negative results. Historical evidence suggests likely absence of the species on site. It should be noted that there are records of GCN presence within the last 10 years approximately 800m from the site. In addition, the records of the species present offsite to the north are present through survey licence returns at pond 6 and a Natural England licence return close to pond 7, both of which are separated from site by development and roads. Pond 7 appears to be an industrial lagoon and is considered relatively unlikely to support the species, ponds further to the north of the site maybe more suitable and it maybe to these that the licence records are attributable to, it is known that EPS licence locations on magic are not mapped accurately. NatureSpace have indicated that the site is within a 'red zone' indicating highly suitable habitat for great crested newts, although this has been approximately plotted from aerial mapping and pre-existing records.

4.39 Due to previous survey work it is considered highly unlikely that the species are present on site, although terrestrial habitat for the species does exist in the form of grassland, woodland, scrub and hedgerow features. Nether-the-less with the age of the previous data and GCN present within the local area, albeit with a lack of significant connectivity to the site, their likely presence cannot be completely ruled out without update survey work.

Reptiles

4.40 Much of the site was considered sub-optimal habitat for reptiles owing to the short length and regular management of the grassland. The margins of the fields did some opportunities for reptiles therefore considered more suitable, offering foraging habitat and cover from predation. Previous surveys identified reptiles being present on the site boundaries and as such it is considered likely that reptiles would still persist in similar numbers.

Water Voles

4.41 The banks of the stream on site were relatively shaded and as such were not heavily vegetated. Some sedge and rush species were present along the edge of the stream but these species were found in sparse sections. In addition to shading from trees, regular poaching and grazing from horses also limited the food available to support water vole. During the survey no evidence of water voles were observed and with no records of the species locally, it is not considered that the species would likely be present. In addition, in August a detailed river corridor assessment to inform the biodiversity net gain was undertaken along the stream, again no evidence of water voles was recorded. As such this species is not considered further in this report.

Nesting Birds

4.42 The trees, hedgerows, scrub and woodland on site have the potential to support nesting birds. An old birds nest was recorded within building 1, although not used at the time of survey it is considered that this building and the vehicle structures may provide some additional habitat. No evidence of barn owls was recorded within these structures.

Other Species

4.43 Due to a lack of suitable habitat and/or connectivity, the site was not considered suitable for other protected species, such as otters. The water within the stream was very shallow and unlikely to support a fish assemblage that would sustain such creatures.

4.44 Standing dead wood was identified in the ancient woodland along the northern site boundary. This can provide opportunities for saprophytic insects such as stag beetles, records for which were included within the records obtained from Sussex Biodiversity Records Centre.

4.45 The site is considered to have potential to support hedgehogs with the grassland and boundary habitats potentially providing commuting and foraging habitat. There is a record of the species 300m to the south of the site.

Invasive Species

4.46 Stands of giant hogweed were present throughout the site, but largely located along the western boundary, the stream and the adjacent woodland to the east of the site. Giant hogweed is a schedule 9 species under the Wildlife and Countryside Act 1981 (as amended), which makes it illegal to allow to plant or allow to grow in the wild, this includes spreading within contaminated soils and cuttings. In addition, the sap of giant hogweed can be hazardous to human health causing nasty blisters if it becomes into contact with human skin.

5.0 Discussion

5.1 The following paragraphs consider the effects of the development on designated sites, priority habitats and protected and priority species. Where the desk study and UKHab survey provide sufficient evidence for an assessment of effects on any of these groups to be taken through planning, these are detailed below, the need for additional surveys and when and how these should be completed are summarised, if required.

5.2 Provisional recommendations are also given for means to achieve net biodiversity gain, following the principle (CIEEM *et al*. 2016) of following the mitigation hierarchy of; avoidance, minimisation of loss, compensation on site and biodiversity offset.

Effects on designated sites

5.3 There are no internationally designated sites within 15km of the red line boundary. The nearest internationally designated site is the The Mens SAC located approximately 15.25km to the south west. The Mens is designated due to beech woodland, with the presence of barbastelle bats as a qualifying feature. The Mens along with two other bat SACs has a 12km zone of influence, where impacts on barbastelle and Bechstein's bats need to be considered as part of planning permissions. The site falls well outside this zone, given the distance between this site, any other internationally designated sites and the proposed development site no adverse impacts to these protected areas are predicted.

5.4 A review of the Impact Risk Zones (IRZs), provided by MAGIC maps, indicates that applications involving airports and helipads and other aviation projects as well as projects leading to air pollution impacts over a certain threshold from livestock and poultry, slurry and manure require consultation and assent from Natural England as part of the planning process.

As the development does not fall within these descriptions further consultation with regards to this are not required.

5.5 Warnham Local Nature Reserve (LNR) is located approximately 150m to the south of site. This is designated for its diverse range of habitats including: reedbeds; ancient woodland; conifer plantations; mixed broad-leaved plantation; and wet grassland. The LNR supports a range of plants and animals, with 10 species of reptiles and amphibians, 162 birds, 2 dragonflies and damselflies, 28 mammals including 7 bat species, 366 plant species and 523 species of moths. The site is separated from the site by the busy A264 and as such has no direct connectivity to the designation through terrestrial habitat. 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. With no direct connectivity to the site through footpaths, provision of public open space and the ongoing management of the LNR for public access it is not considered that other non-direct impacts such as recreational pressure would be a negative impact upon the site.

5.6 Warnham Site of Special Scientific Interest is located approximately *c.*850m north of the site. This is designated for geological importance and as such no ecological impacts on the designation are predicted.

5.7 Warnham Mill Pond Local Wildlife Site (LWS) covers a portion of the Warnham LNR and is designated for its damned lake and associated habitats and wildlife. As such like the LNR designation water quality impacts need to be considered from construction and site run off. It is not considered that the site would have any other impact on the site. Due to distance it is not considered that there would be any negative impacts upon Brockhurst Wood & Gill & Morris's Wood LWS which is located approximately 800m north east of the site.

Effects on priority habitats and irreplaceable habitats

5.8 The site contains priority habitat in the form of mixed lowland deciduous woodland including large sections of woodland 1 which lies partially on site as well as along the northern boundary which is considered ancient and semi-natural woodland. This will need to be buffered with a 15metre buffer from all development to ensure that negative impacts such as roost compaction, changes of hydrology and damage and disturbance are prevented and minimised. Ancient woodland is considered an irreplaceable habitat. The other sections of woodland although not

considered ancient in nature should be protected and retained where possible as a design priority. Native hedgerow habitat was also present on site. Again these habitats should be retained and buffered. If sections of these habitats are required for removal as part of the proposals, suitable mitigation and compensation measures will need to be designed into the proposals. The site will be subject to a biodiversity net gain assessment with the aim of achieving a 10% net gain.

5.9 A veteran oak tree was recorded on the northern edge of woodland 2. This should be protected and buffered following Arboricultural advice. This like ancient woodland is an irreplaceable habitat and must be designed into the scheme.

Effects on on-site habitats

5.10 The proposals are designed to retain the majority of mature hedgerows, scrub and woodland on site which are considered to be the most valuable features on site. It is considered that the development will mostly impact the areas of modified and other neutral grassland, which dominated the site. This habitat is considered to be common and widespread within the local area. The proposals also retain the existing ponds on located on site. The stream will largely be retained although it will be crossed in by a new access road to the south of the site.

5.11 There are opportunities for enhancing the ponds on site and recreating these features. These can be incorporated into the drainage requirement for the site. Ponds and swales should be designed with wildlife at the forefront, which will also feed into the green infrastructural developments on site.

5.12 Overall, it is considered that the development is retaining the majority of the most ecologically important habitats and features on site, with the majority of the development occurring in the areas of modified and other neutral grassland. With a biodiversity net gain calculation undertaken for the site, an overall 10% biodiversity net gain will be provided, it is considered that the proposals adhere to Strategic Policy 31, as the proposals are protecting the green infrastructure of the area in order to maintain and improve biodiversity. Furthermore, the development is contributing to the green infrastructure network through the creation of new areas of green open space on site and taking them out of intensive grazing and management, creating more habitat for species such as reptiles, small mammals, and amphibians with he provision of wildflower planting and appropriate management.

Protected Species

Bats

Roosting

5.13 There was one permanent building on site and this was deemed to have negligible potential for bats. This was an old shed which had partially collapsed. The building was completely exposed to the elements and natural light with a lack of external features for bats to use. No evidence of use were recorded, the building was classed as having 'negligible' potential. Two temporary buildings were present in the form of old vehicle containers, these again were considered to be 'negligible' for roosting bats due to a lack of features. No further surveys for these structures are recommended.

5.14 There are numerous bat potential trees on site. These should be subject to appropriate survey if they are to be impacted by development. Trees located within the site boundary were assessed containing either PRF-Is or PRF-Ms, which offer suitability for roosting bats.

5.1 Should any trees with PRF-Is need to be removed, then no further surveys are necessary prior to removal but they should be felled in accordance with specific advice provided by an ecologist ensuring that reasonable avoidance measures are followed. Recommended measures include:

- Re-checking the tree and any features for evidence of bats;
- Areas of ivy and loose bark should be re checked and carefully removed to reveal the tree trunk below and if any features or bats present;
- If evidence of bats is present then works should stop and the advice of an ecologist sought immediately;
- Cavities in the trees should not be sawn through but cut above and below cavities;
- Sections which support cavities should be soft felled and roped carefully down to the ground;
- If a bat is found and is injured the advice of an ecologist should be sought;
- If a roost is discovered and no bats are harmed, no further works should be undertaken and the advice of an ecologist sought.

5.15 Trees that are considered to contain PRF-Ms will need further climbing / aerial inspection surveys or emergence surveys during the bat activity season (May – August / September). If PRF-M features are confirmed after the first climber / inspection then three two further

inspections or if not possible emergence surveys will be required at least 3 weeks apart. This is only the case if these trees are considered to be impacted.

5.16 A tree with a previously recorded bat roost has since been removed from site. It is not known what happened as this occurred when under the management of the previous landowner. It is noted that the tree was dead in poor health. It is recommended that a bat box is erected on a mature tree on site to mimic the conditions present. It is recommended that a Vivaro Pro Large Multi Chamber Woodstone Bat Box is erected on a suitable tree on the southern side of Mercer Road, which is in close proximity to the tree that is no longer present.

Foraging and commuting habitats

5.17 A range of previous survey work has been undertaken across the site. The previous transect surveys conducted on site between 2017/2018 and in 2020, showed that the site is used by a variety of bat species especially along the hedgerows and mature treelines located on site. With the site under the same management regime and having not materially significantly changed it is considered that the bat assemblage is likely to be broadly similar. It is however recommended that update surveys in line with the new BCT 2023, 4th edition guidance are undertaken. Due to extensive pre existing data, it is recommended that update surveys in the form of three seasonal nighttime bat walks and associated static monitoring should be undertaken should be undertaken and would be a proportionate and complimentary approach.

5.18 The linear features on site, including the stream, hedgerows, scrub and woodland a foraging and commuting habitat for bats. It is also considered that the areas of edge habitat around the woodlands on site also provide good commuting and foraging habitat for bats. As such, it is recommended that as many of these features are retained where possible within the scheme.

5.19 It is always recommended that a sensitive lighting scheme is implemented as part of the scheme. All bat species are nocturnal, resting in dark conditions in the day and emerging at night to feed. Many species of bats are known to sample light levels before emerging from their roost; only emerging for their night's hunting when the light intensity outside reaches a critical level after sunset. Artificial lighting can restrict and shorten the time bats spend foraging at night or completely discourage ats from using an area at all. This needs to be considered, with a sympathetic lighting scheme for the development. Recommendations include:

- No potential bat roost or commuting feature should be illuminated by artificial lighting, lighting should be positioned to point away from any roosting site, leaving

the entrance and exit points in darkness, this should consider the bat potential trees identified, as well as on and offsite green corridors potentially in use by bats;

- Lighting should only be installed if there is a significant need;
- Light levels should be kept low where possible;
- Using LED luminaries due to their lower intensity, sharp cut-off and good colour rendition – any lights with UV elements or metal halide lights should not be used;
- Lights with peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012);
- Lights with an upward light ratio of 0% and good optical control;
- Lighting should be avoided near treelines or hedgerows, with light angled away from these areas, bats use linear features such as treelines to commute across the landscape to forage; and
- Lights should have focussed luminance on their target area, preventing spill and pollution into other areas of the site and local area.

Dormice

5.20 The site is considered to offer some suitability for dormice in the form of ancient woodland on the northern boundary, deciduous woodland within the site boundary as well as connective treelines and hedgerows. These habitats also have some off-site connectivity to hedgerows and woodland parcels in the local area, although is heavily limited due to the presence of the surrounding road and rail network as well as areas of industrial and low density housing. The most recent biological record obtained from SxBRC for dormice was located 2km east of the site in 2014. The dormouse surveys conducted between 2017 and 2018 did not identify the presence of any dormice within the site.

5.21 Since the previous dormouse surveys were conducted in 2017 and 2018, due to the age of the data, it is recommended that update dormouse surveys are conducted to establish if there is presence of dormice on site, and if so, to estimate the size of the population and inform appropriate mitigation and compensation.

[redacted]

[redacted]

5.26 A 'low' population of slow worms and 'good' population of common lizards, as well as a 'low' population of grass snakes due to the presence of juveniles on the site during the reptile checks in 2017 were recorded. The reptile surveys conducted over 2020, found that the site supported a 'low' population of common lizards, slow worms and grass snakes. The management of the site has not changed significantly since this previous survey work was undertaken. The site is still horse grazed or cut on rotation as before, leaving suitable habitat present on the site margins, with grassland habitat largely unsuitable, highly disturbed and largely of a short sward.

5.27 However, due to the age of the previous survey data it is recommended that survey work is updated. This will involve setting up artificial refugia around suitable habitat on site and checking within suitable weather conditions during the reptile active period (April –

September (or October if suitable condition prevail)). The results can confirm whether the species previously recorded are still present and inform appropriate mitigation and compensation.

Great crested newts (GCN)

5.28 There are four ponds located on site, with four other ponds located within the wider landscape. Ponds 1, 2, 3, 4, 5 and 8 were previously eDNA sampled in 2017 and all returned negative results. Ponds 1, 2, 3, 4 and 5 were previously surveyed using bottle traps and torch-light surveys in 2019, the results returned were negative. The site is located within a red zone for GCN, per the NatureSpace Partnership impact risk zone maps. The nearest biological record for GCN in the local area was 800m north of the site in 2017, with the latest record found in 2021. Additional licence return records and a previously granted EPS licence are also present to the north of the site, although within areas that have limited direct connectivity to the site from road networks and development.

5.29 GCN are likely present within the local area around site. As such, it is recommended that an update eDNA survey is conducted on ponds located on site as well as accessible offsite ponds within 250m of the site. These should be undertaken between mid-April – end of June, with water samples collected and sent off for lab analysis.

Nesting birds

5.30 The hedgerows, treelines and woodland habitats, all provided suitable opportunities for nesting birds. Due to the size of the site and records of some notable birds in the local area a breeding bird surveys are recommended.

5.31 Should plans be altered and any suitable features require removal, this should be done outside of nesting bird season. This is accepted as running from March-August, inclusive. Should this not be possible, then all clearance must be conducted immediately proceeding a nesting bird check by an ecologist. Should any birds nests be identified, suitable exclusion zones must be erected, within which, no works can be conducted until such time as they can be confirmed inactive by an ecologist.

Other Species

5.32 Stag beetles maybe present within the woodland on site as such if any works to these habitats should look to retain deadwood or reposition existing dead wood within retained habitat, as this habitat is important to the larval stage of the species.

5.33 The site has potential to support hedgehog. Whilst receiving no specific legal protection, they are protected from certain forms of harm under the wild mammals (Protection) Act 1996. There is a risk that without mitigation, vegetation clearance on site may result in mutilation or crushing of hedgehog. As such, it is recommended that areas if any dense vegetation needs clearing, it is cut in two stages, the first to 300mm, then then the second to ground level after the area has been searched for hedgehog. If any are found, they will be safely move to a suitable brash pile outside the clearance area.

5.34 It is considered highly unlikely that other protected species are present on site and as such potential constraints are ruled out. If evidence of such species is recorded during works, then works should stop until further advice from a suitably qualified ecologist can be sought on how to proceed.

General Ecological Enhancements

5.35 Log piles can be created using any woody material removed during works for use as refugia by reptiles, amphibians, small mammals and invertebrates (Figure 13). They can be situated in a variety of locations, such as damp places with some situated in sunnier locations. They can be placed, around the very edges of the site and positioned under mature trees. These should be stacked and perhaps some leaf litter added. Planting around log piles with species such as honeysuckle or clematis can also add value.

Figure 13: Log piles and hibernacula can be created within the edges of the site or in the retained habitats on site

5.36 Tree-mounted bat boxes can also be installed in suitable retained trees in the greenspace onsite to create additional roosting provision. Recommended boxes include:

- Vivara Pro WoodStone Bat Box – A general purpose bat box that supports a range of species (Figure 14). These can be hung on trees in a variety of heights and aspects in order to provide a variety of micro-climates.
- Large Multi Chamber WoodStone Bat Box – This is a multipurpose box designed for larger colonies and a range of bat species including pipistrelles, noctules and brown long-eared bats. These should be hung on mature trees around the site (Figure 14).

Figure 14: Vivara Pro WoodStone Bat Box (left) and Large Multi Chamber WoodStone Bat Box (right).

5.37 Additional bird nesting opportunities can also be installed on site, as integrated boxes within existing trees on site. Hardwearing woodcrete boxes, or similar, are recommended. Figure 15 gives examples of suitable bird boxes, of which these or similar, could be installed onto the trees. The box should be positioned on a north or east facing aspect and at least 2m above the ground if possible. A total of two of these boxes is recommended.

Figure 15: Examples of suitable bird boxes which could be installed on site – Vivara Pro Barcelona WoodStone Open Nest Box (centre) and Vivara Pro Seville 32mm WoodStone Nest Box (right)

6.0 Conclusions

6.1 The site does not lie within or adjacent to any statutory or non-statutory designated sites, it does have some limited connectivity to Warnham LNR and Warnham Mill Pond LWS through the stream present on site. As such consideration to potential waterborne pollution will need to be made to insure no negative impacts arise from the proposal.

6.2 The majority of the habitats on site are common and widespread throughout the local area and the UK as a whole, comprising largely of modified and other neutral grassland. There are however irreplaceable habitats present on site such as ancient woodland and veteran trees The most ecologically valuable habitats on site were considered to be the hedgerows, scattered mature trees, treelines and woodlands. It is recommended these habitats be retained and enhanced where possible. It is noted that giant hogweed an invasive plant under the Wildlife and Countryside Act 1981 (As amended). Not only is it illegal to allow this species to spread in the wild, it is also harmful to heath with poisonous sap, that can burn skin if exposed. A specialist contractor will need to be brought in to remove this plant from site.

6.3 Both ancient woodland and priority deciduous woodland were situated within the site boundary or on the site boundary. In accordance with Natural England standing advice, it is recommended a minimum development buffer of 15m is put in place around the ancient woodland, which has been included in the latest proposals. Priority woodlands should be protected as part of

6.4 [redacted]

6.5 A number of trees were identified within the site that were considered to have roosting bat potential. These are understood to be retained within the scheme. Trees have been categorised under the latest BCT 2023 guidance as having PRF-I, which contain potential roost features for individual bats or low numbers of bats within a roost of low conservation value, or PRF-M as having potential roost features for multiple bats and possible maternity roosts. PRF-I trees can be felled without further survey work if required as long as sensitive soft felling techniques are used. PRF-M trees will need further survey work within the bat active season May – August / September. If the tree is confirmed as having PRF-M features after the first inspection, then two

further surveys will be required. If aerial inspection cannot be undertaken then three emergence survey will be required. A full Natural England bat licence would be required to remove any tree with a confirmed bat roost.

6.6 A tree with a bat roost was previously identified on site. This is no longer present. It is not known what happened to the tree as the site was under the management of the previous landowner. However the tree was dead and in poor condition, it is considered possible that the tree has been removed due to natural courses, it is known that another tree in a similar condition had blown over on site. It is recommended that a bat box is put up in a nearby tree on the south side of Mercer Road to recreate similar features lost.

6.7 The boundary features and stream running across the site are considered to provide good commuting and foraging opportunities for bats in the local area. Surveys have shown the presence of common species such as brown long-eared bats, noctules and pipistrelles as well as the rare Annex II listed barbastelle. Further update night time bat walkover surveys have been recommended since the previous surveys are invalid.

6.8 The on-site and adjacent woodland and hedgerows contained a good diversity of woody species of value to dormice. Dormice have been recorded east of the site, and while not directly connected to the on-site habitats. Dormouse surveys carried out between 2017 and 2018 did not find any evidence of dormice using the site. Update dormouse surveys have been recommended since the previous survey work conducted in 2017 and 2018 is considered to be invalid.

6.9 In 2017, ponds 1, 2, 3, 4, 5 and 8 were eDNA sampled, all the ponds returned a negative result. In 2020, ponds 1, 2, 3, 4 and 5 were surveyed using bottle trapping and torch light survey methods, the results from these surveys also showed an absence of GCN. Owing to the age of this data, it is recommended that update eDNA surveys are conducted on the ponds in the local area to establish presence or absence.

6.10 As in 2017, reptile surveys on the site found a 'low' population of slow worms and grass snakes and a 'good' population of common lizards. The 2020 surveys found that the site supported a 'low' population of common lizards, slow worms and grass snakes. Due to the age of this data, it is recommended that update reptile surveys art conducted on site during the reptile active period (April – September).

6.11 It is therefore recommended that as much of the external and internal hedges and trees lines are retained where possible, as well as using a buffers trip of rough vegetation to enhance the wildlife corridors across the site. The diversity of birds found on site is average in the local context, with largely common birds present. However, due to the age of the data, it is recommended that update breeding bird surveys are conducted on site.

6.12 Overall, it is recommended that the majority of the external and internal hedges, woodland and trees lines are retained where possible. Any works that are to be undertaken on these areas should avoid the bird nesting season (March – September inclusive) or a nesting bird check by a qualified ecologist will be required.

6.13 No evidence of water voles or otters was identified during the course of the survey. Recommendations for other species such as hedgehogs and stag beetles have been made.

6.14 The invasive plant species giant hogweed was identified across the site, it is recommended a specialist be consulted to remove the plant from the site.

6.15 Recommendations for enhancements have been made within this report, aimed at improving the ecological value of the site and providing a net gain in biodiversity post-development.

7.0 References

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The Ecology Partnership., (2020)., Preliminary Ecological Appraisal Land at Langhurst Wood Road, Horsham. The Ecology Partnership, Leatherhead.

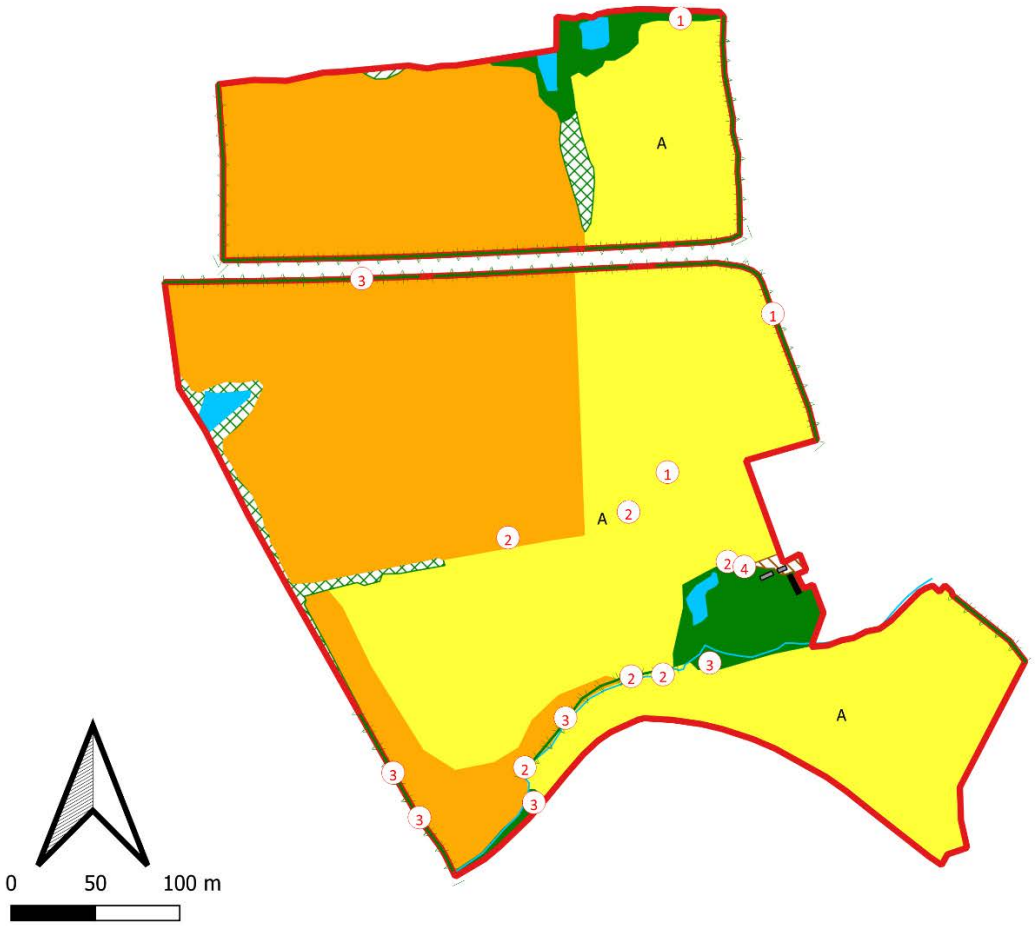
Internet resources:

Google Maps: www.google.co.uk/maps

Magic Interactive Map: www.magic.gov.uk

Horsham District Council: horsham.gov.uk

Appendix 1: Habitat Map



- Developed Land; Sealed Surface (Building)
- Artifical Unvegetated: Unsealed Surface (Temporary Buildings)
- Sparsely Vegetated Urban Land
- A Modified Grassland
- Other Neutral Grassland
- Pond
- Mixed Scrub
- Blackthorn Scrub
- Lowland Mixed Deciduous Woodland
- Native Hedgerow
- Native Hedgerow with Trees
- Stream

Target Notes

1. PRF-I Tree
2. PRF-M Tree
3. Giant Hogweed
4. Veteran Tree

- Red Line Boundary

ECOLOGY PARTNERSHIP

Title: UK Hab Habitat Map
Site: Land at Mercer Road, Horsham
Client: Riverdale
Surveyors: CJ + AB
Date:12/12/2024

Appendix 2: Photographs

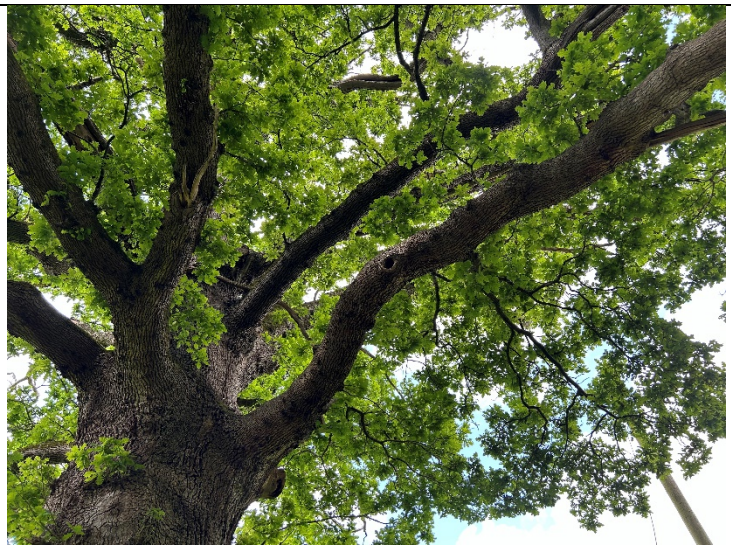
Photograph 1: Grassland 1 to the north of site, classed as other neutral grassland	
Photograph 2: Grassland 2 to the north of site classified as modified grassland	
Photograph 3: Pond 2	

Photograph 4: Pond 1	
Photograph 5: Grassland 3 classes as other neutral grassland	

Photograph 6: Giant hogweed present on the southern side of Mercer Road on the edge of grassland 3	
Photograph 7: Grassland 4, which was largely considered as modified grassland	

Photograph 8: Stream running through site	
Photograph 9: Ash tree classed as PRF-M along the northern bank of the stream	

Photograph 10: Grassland 5, to the south of site with the horses present that graze the site on rotation	
Photograph 11: Grassland 5, looking east towards Langhurst Wood Road	

Photograph 12: Veteran Oak present to the north of the eastern woodland parcel, this tree was also classified has having PRF-M bat potential	
Photograph 13: The building present on site	

Photograph 14: Inside the building on site, the building was considered to have negligible potential for roosting bats	

Appendix 3: Species List

Common name	Latin Name	DAFOR score
Other Neutral Grassland - Field 1		
Yorkshire Fog	*Holcus lanatus*	A
Meadow Buttercup	*Ranunculus acris*	A
Creeping Thistle	*Cirsium arvense*	A
Sweet Vernal Grass	*Anthocanthum odoeratum*	F
Soft Brome	*Bromus hordeaceus*	O
Curled Dock	*Rumex crispus*	O
Common Mouse-ear	*Cerastium fontanum*	O
Red Fescue	*Festuca rubra*	O
Creeping Buttercup	*Ranunculus repens*	O
Meadow Foxtail	*Alopecurus pratensis*	O
Common Vetch	*Vicia sativa*	O
Cock's-foot	*Dactylis glomerata*	R
Crested Dog's-tail	*Cynosurus cristatus*	R
Common Sorrel	*Rumex acetosa*	R
White Clover	*Trifolium repens*	R
Red Clover	*Trifolium pratense*	R
Cuckooflower	*Cardamine pratensis*	R
Hairy Tare	*Vicia hirsute*	R
Modified Grassland - Field 2		
Perennial Ryegrass	*Lolium perenne*	A
Meadow Foxtail	*Alopecurus pratensis*	A
Cock's-foot	*Dactylis glomerata*	A
Yorkshire Fog	*Holcus lanatus*	O
Creeping Cinquefoil	*Potentilla reptans*	O
Cuckooflower	*Cardamine pratensis*	R
Meadow Buttercup	*Ranunculus acris*	R

Other Neutral Grassland - Field 3 and western section of Field 4		
Sweet Vernal Grass	*Anthocanthum odoeratum*	F
Yorkshire Fog	*Holcus lanatus*	F
Soft Brome	*Bromus hordeaceus*	F
Rough Meadow Grass	*Poa trivialis*	O
White Clover	*Trifolium repens*	O
Creeping Buttercup	*Ranunculus repens*	O
Common Mouse-ear	*Cerastium fontanum*	O
Selfheal	*Prunella vulgaris*	O
Hairy Tare	*Vicia hirsute*	R
Meadow Buttercup	*Ranunculus acris*	R
Created Dog's-tail	*Cynosurus cristatus*	R
Black knapweed	*Centaurea nigra*	R
Birds-foot-trefoil	*Lotus corniculatus*	LA
Meadow Barley	*Hordeum brachyantherum*	LA
Modified Grassland – Eastern and central areas of Field 4		
Perennial Rye Grass	*Lolium perenne*	A
Yorkshire Fog	*Holcus lanatus*	A
White Clover	*Trifolium repens*	A
Selfheal	*Prunella vulgaris*	O
Common Bent	*Agrostis capillaris*	O
Creeping Buttercup	*Ranunculus repens*	F
Creeping Thistle	*Cirsium arvense*	F
Common Ragwort	*Jacobaea vulgaris*	R
Meadow Foxtail	*Alopecurus pratensis*	R
Marsh Cudweed	*Gnaphalium uliginosum*	R
Meadow Buttercup	*Ranunculus acris*	R
Red Bartsia	*Odontites vernus*	R
Modified Grassland - Field 5		

Yorkshire Fog	*Holcus lanatus*	A
Meadow Foxtail	*Alopecurus pratensis*	A
Perennial Ryegrass	*Lolium perenne*	F
Creeping Buttercup	*Ranunculus repens*	O
Common Ragwort	*Jacobaea vulgaris*	R
Selfheal	*Prunella vulgaris*	R
Silverweed	*Potentilla anserina*	R
Common Mouse-ear	*Cerastium fontanum*	R
Thyme-leaved Speedwell	*Veronica serpyllifolia*	R
Meadow Buttercup	*Ranunculus acris*	R
Germander Speedwell	*Veronica chamaedrys*	R
White Clover	*Trifolium repens*	R
Woodland 1		
Oak	*Quercus robur*	D
Hawthorn	*Crataegus monogyna*	O
Hazel	*Corylus avellana*	O
Holly	*Ilex aquifolium*	R
Ash	*Fraxinus excelsior*	R
Cherry	*Prunus sp.*	R
Bramble	*Rubus fruticosus*	F
Bluebell	*Hyacinthoides sp.*	F
Woodland 2		
Ash	*Fraxinus excelsior*	A
Hawthorn	*Crataegus monogyna*	F
Field Maple	*Acer campestre*	O
Sycamore	*Acer pseudoplatanus*	O
Oak	*Quercus robur*	R
Common Nettle	*Urtica dioica*	A
Wood Dock	*Rumex sanguineus*	A

Bramble	*Rubus frutiocsus*	F
Germander Speedwell	*Veronica chamaedrys*	O
Giant Hogweed	*Heracleum mantegazzianum*	O
Tufted Vetch	*Vicia cracca*	O
Red Campion	*Silene dioica*	O
Cleavers	*Galium aparine*	O
Wood Avens	*Geum urbanum*	O
Cut-leaved Crane's-bill	*Geranium dissectum*	O
Wood Forget-me-not	*Myosotis sylvatica*	R
Spear Thistle	*Cirsium vulgare*	R
Woodland 3		
Oak	*Quercus robur*	D
Ash	*Fraxinus excelsior*	F
Elder	*Sambucus nigra*	R
False Brome	*Brachypodium sylvaticum*	F
Bramble	*Rubus fruticosus*	O
Tall Forbs & Bare Earth		
Oxeye Daisy	*Leucanthemum vulgare*	O
Red Campion	*Silene dioica*	O
Common Nettle	*Urtica dioica*	O
Silverweed	*Potentilla anserina*	O
Garlic Mustard	*Alliaria petiolate*	O
Mixed Scrub with Trees (Field 1)		
Elder	*Sambucus nigra*	O
Field Maple	*Acer campestre*	O
Hazel	*Corylus avellana*	O
Blackthorn	*Prunus spinosa*	A
Bramble	*Rubus fruticosus*	F
Oak	*Quercus robur*	O

Scrub 2 – Blackthorn Scrub		
Blackthorn	*Prunus spinosa*	D
Bramble	*Rubus fruticosus*	O
Scrub 3 – Mixed Scrub		
Hawthorn	*Crataegus monogyna*	D
Goat Willow	*Salix Caprea*	LA
Elder	*Sambucus nigra*	O
Dogrose	*Rosa canina*	O
Bramble	*Rubus fruticosus*	O
Stream – Other rivers and streams		
Soft Rush	*Juncus effsus*	R
Remote Sedge	*Carex remota*	A
Common Nettle	*Urtica dioica*	A
Pendulous Sedge	*Carex pendula*	O
Hedgerow 1		
Blackthorn	*Prunus spinosa*	D
Bramble	*Rubus fruticosus*	O
Elder	*Sambucus nigra*	O
Oak	*Quercus robur*	R
Hedgerow 2		
Blackthorn	*Prunus spinosa*	D
Elder	*Sambucus nigra*	O
Cherry	*Prunus sp.*	O
Hawthorn	*Crataegus monogyna*	O
Field Maple	*Acer campestre*	R
Wych elm	*Ulmus glabra*	O
Hedgerow 3		
Blackthorn	*Prunus spinosa*	F
Spindle	*Euonymus europaeus*	R

Dogrose	*Rosa canina*	R
Ash	*Fraxinus excelsior*	R
Hedgerow 4		
Blackthorn	*Prunus spinosa*	F
Hazel	*Corylus avellana*	F
Oak	*Quercus robur*	O
Ash	*Fraxinus excelsior*	O
Field Maple	*Acer campestre*	O
Giant Hogweed	*Heracleum mantegazzianum*	O
Common Nettle	*Urtica dioica*	O
Hedgerow 5		
Blackthorn	*Prunus spinosa*	D
Hawthorn	*Crataegus monogyna*	O
European Horse-chestnut	*Aesculus hippocastanum*	O
Sycamore	*Acer pseudoplatanus*	R
Hedgerow 6		
Hawthorn	*Crataegus monogyna*	A
Bramble	*Rubus fruticosus*	A
Common Hop	*Humulus lupulus*	F
Field Maple	*Acer campestre*	O
Elder	*Sambucus nigra*	O
Hedgerow 7		
Horse-chestnut	*Aesculus hippocastanum*	O
Lime	*Tilla x europaea*	F
Field Maple	*Acer campestre*	R
Hawthorn	*Crataegus monogyna*	O
Giant Hogweed	*Heracleum mantegazzianum*	R
Hedgerow 8		
Lime	*Tilla x europaea*	F

European Horse-chestnut	*Aesculus hippocastanum*	A
Elder	*Sambucus nigra*	O
Hawthorn	*Crataegus monogyna*	O
Bramble	*Rubus fruticosus*	O

Appendix 4: Biological Records Summary

Sussex Biodiversity Record Centre

Ecological Data Search SxBRC/24/349 - Summary Report

An ecological data search was carried out for land at Mercer Road, Warnham on behalf of Ed Simpson (The Ecology Partnership) on 07/08/2024.

The following datasets were consulted for this report:

	Requested	Radius/buffer size
Designated sites, habitats & ownership maps	Yes	2km
Protected, designated and invasive species	Yes	2km

Summary of results

Sites and habitats

Statutory sites	1 SSSI / 1 LNR
Non-statutory sites	2 LWS / 1 LGS / 1 Designated Road Verge
Section 41 habitats	2 habitats
Ancient and/or ghyll woodland	Present

Protected and designated species

International designations	54 species	7,261 records
National designations	182 species	31,504 records
Other designations	487 species	80,098 records
Total	**512 species**	**86,314 records**
Invasive non-native	47 species	8,140 records

The report is compiled using data held by Sussex Biodiversity Record Centre (SxBRC) at the time of the request. SxBRC does not hold comprehensive species data for all areas. Even where data are held, a lack of records for a species in a defined geographical area does not necessarily mean that the species does not occur there – the area may simply not have been surveyed.

This summary page may be published.
The full report and maps may not be published or otherwise shared.

The data search report is valid until 07/08/2025 for the site named above.

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