

Land West of Ashington, Pulborough

Ecological Appraisal

February 2023

Quality Management	
Client:	Bellway Homes Ltd. (South East)
Project:	Land West of Ashington, Pulborough
Report Title:	Ecological Appraisal
Project Number:	ECO-6455
File Reference:	6455 EcoAp vf1 AH/JL
Date:	23/02/2023

Copyright
The copyright of this document remains with Aspect Ecology. All rights reserved. The contents of this document therefore must not be copied or reproduced in whole or in part for any purpose without the written consent of Aspect Ecology.

Confidentiality
This report may contain sensitive information relating to protected species. 

Legal Guidance
The information set out within this report in no way constitutes a legal opinion on the relevant legislation (refer to the relevant Appendix for the main provisions of the legislation). The opinion of a legal professional should be sought if further advice is required.

Liability
This report has been prepared for the exclusive use of the commissioning client and unless otherwise agreed in writing by Aspect Ecology no other party may use, or rely on the contents of the report. No liability is accepted by Aspect Ecology for any use of this report, other than for the purposes for which it was originally prepared and provided. No warranty, express or implied, is made as to the advice in this report. The content of this report is partly based on information provided by third parties; Aspect accepts no liability for any reliance placed on such information. This report is subject to the restrictions and limitations referenced in Aspect Ecology's standard Terms of Business.

Contact Details
Aspect Ecology Ltd Hardwick Business Park Noral Way Banbury Oxfordshire OX16 2AF t 01295 279721 e info@aspect-ecology.com w www.aspect-ecology.com

Contents

Text:

Executive Summary 1

1 Introduction 1

2 Methodology 2

3 Ecological Designations..... 12

4 Habitats and Ecological Features..... 14

5 Faunal Use of the Site 23

6 Mitigation Measures and Biodiversity Net Gains 34

7 Conclusions 42

Plans:

Plan 6455/ECO1	Site Location
Plan 6455/ECO2	Ecological Designations
Plan 6455/ECO3	Habitats and Ecological Features
Plan 6455/ECO4	Bat Activity Surveys
Plan 6455/ECO5	Dormice Surveys
Plan 6455/ECO6	Location of Waterbodies
Plan 6455/ECO7	Reptile Surveys

Appendices:

Appendix 6455/1	Evaluation Methodology
Appendix 6455/2	Legislation Summary
Appendix 6455/3	Desktop Study Data
Appendix 6455/4	Breeding Bird Surveys



Executive Summary

- i) **Introduction.** Aspect Ecology was commissioned by Bellway Homes Ltd in November 2021 to undertake an Ecological Appraisal in respect of proposed development of land west of Ashington, Pulborough.
- ii) **Proposals.** This Ecology Appraisal informs the submission of a planning application for 180 homes and community facilities including sports pavilion, MUGA and community allotments and associated infrastructure.
- iii) **Survey.** The site was surveyed in February and August 2022 based on standard extended Phase 1 methodology. In addition, a general appraisal of faunal species was undertaken to record the potential presence of any protected, rare or notable species, with specific surveys conducted in respect of Bats, Great Crested Newts, Dormice, breeding birds and Reptiles.
- iv) **Ecological Designations.** The site itself is not subject to any statutory or non-statutory ecological designations. The nearest statutory designation is Sullington Warren Site of Special Scientific Interest located approximately 2.6km south-west of the site, which is physically well separated from the site and are therefore unlikely to be adversely affected by the proposals.
- v) The International designation Arun Valley Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar is located approximately 6.2km west of the site at its nearest point. Potential effects on this designation, together with appropriate mitigation measures, are fully considered in the Information to inform an Appropriate Assessment (AA) document which accompanies this report (reported under separate cover). In summary, it has been demonstrated that water neutrality can be delivered under the proposed scheme, thereby providing assurance (beyond scientific doubt) that the proposed development will not adversely effect the integrity of Arun Valley SPA/SAC/Ramsar.
- vi) **Habitats.** The site is dominated by arable and improved grassland fields, and as such the majority of the site is not considered to form important ecological features. Other habitats at the site include hedgerows, woodland, scattered trees, ponds, and dry / wet ditches. Of these other habitats, a number are of elevated ecological importance at the local level importance and these are retained and protected in full under the proposed development. Where minor breaks in hedgerows are required to facilitate access, these are compensated through new planting.
- vii) **Protected Species.** Survey work undertaken has recorded the site to be utilised by reptiles and Dormice. No elevated use of the site by bats or birds was recorded, whilst Great Crested Newt was recorded to be likely absent. Accordingly, the proposals have sought to maintain opportunities for reptiles and Dormice, and where necessary, safeguards and mitigation in respect of both these species are recommended.
- viii) **Enhancements.** The proposals present the opportunity to secure a number of biodiversity net gains, including additional native tree / shrub / hedgerow and wildflower planting, and new roosting and nesting opportunities for bats and birds.
- ix) **Summary.** In summary, the proposals will seek to minimise impacts on biodiversity and subject to the implementation of appropriate avoidance, mitigation and compensation measures (following the recommended additional survey work), it is considered unlikely that the proposals will result in significant harm.

1 Introduction

1.1 Background and Proposals

- 1.1.1 Aspect Ecology was commissioned by Bellway Homes Ltd. in November 2021 to undertake an Ecological Appraisal in respect of proposed development of land west of Ashington, Pulborough, centred at grid reference TQ 1249 1611 (see Plan 6455/ECO1), hereafter referred to as 'the site'.
- 1.1.2 Bellway Homes Ltd. is submitting a planning application for the development of 180 homes and community facilities including sports pavilion, MUGA and community allotments and associated infrastructure.

1.2 Site Overview

- 1.2.1 The site is located to the west of the town of Ashington in an urban edge context. The site is bound to the east by Ashington Church of England First School and the village of Ashington, to the south by woodland and arable land, to the west by arable land and to the north by a open fields and existing development, beyond which lies further arable land.
- 1.2.2 The site itself is dominated by arable and improved grassland fields, bound by hedgerows and treelines. In addition, other habitats at the site include woodland, scattered trees, ponds, and dry / wet ditches, whilst a total of 7 offsite ponds are located within 250m¹ of the site.

1.3 Purpose of the Report

- 1.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, and subsequently provides an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are proposed so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are identified with reference to national conservation priorities and local Biodiversity Action Plans (BAPs).

¹ The typical terrestrial commuting distance for Great Crested Newts.

2 Methodology

2.1 Desktop Study

- 2.1.1 In order to compile background information on the site and its immediate surroundings Sussex Biodiversity Records Centre was contacted in March 2022, with data requested on the basis of a search radius of 3km.
- 2.1.2 Where information has been received from the above organisation(s) this is reproduced at Appendix 6455/3 and on Plan 6455/ECO2, where appropriate.
- 2.1.3 Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (25km). In addition, the MAGIC database was searched to identify the known presence of any Priority Habitats within or adjacent the site. Relevant information is reproduced at Appendix 6455/3 and on Plan 6455/ECO2, where appropriate.
- 2.1.4 In addition, the Woodland Trust database was searched for any records of ancient, veteran or notable trees within or adjacent to the site.

2.2 Habitat Survey

Extended Phase 1 Habitat Survey

- 2.2.1 The site was surveyed in February and August 2022 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.
- 2.2.2 The site was surveyed based on standard Phase 1 Habitat Survey methodology², whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal³ to record details on the actual or potential presence of any notable or protected species or habitats.
- 2.2.3 Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

Woodland Survey

- 2.2.4 Survey work was undertaken on 7th May 2022 to evaluate the ecological quality and condition of the onsite woodlands, including woodland structure, management, and botanical composition. A list of vascular plant species was recorded within each woodland compartment, along with their abundance according to the DAFOR scale (see Appendix 1). Particular attention was paid to the presence of ancient woodland indicator (AWI) plant

² Joint Nature Conservation Committee (2010, as amended) 'Handbook for Phase 1 habitat survey: A technique for environmental audit.'

³ Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) 'Guidelines for Preliminary Ecological Appraisal.'

species, defined according to the list for south-east England. The distribution of AWIs was mapped by walking a transect comprising a series of parallel straight lines spaced 10 m apart throughout the woodland, using a GPS smartphone app providing 10-figure OS grid references, and a magnetic compass, aided by a topographical survey. The transect was followed as closely as possible but some deviations were necessary around vegetation thickets. All noteworthy patches of ground flora AWIs within sight of the transect line were recorded and mapped, in addition to AWIs in the canopy and understorey when encountered. The approach to mapping depended on the frequency of the species, i.e. for the more abundant species (such as Bluebell), reasonably sized patches were mapped rather than every individual plant, but individual plants were mapped for rarer species within each woodland compartment.

2.3 Faunal Surveys

- 2.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, and specific consideration was given to Bats, [REDACTED] Great Crested Newts, Dormice, Reptiles and birds as described below.

Bats⁴

Visual Inspection Surveys

- 2.3.2 **Buildings.** Buildings within the site were subject to specific internal and external inspection surveys using ladders, torches and binoculars where necessary in February 2022.
- 2.3.3 During the external inspections, particular attention was given to any potential roost features or access points, such as broken or lifted roof tiles, lifted lead flashing, soffit boxes, weatherboarding, hanging tiles, etc. and for any external signs of use by bats such as accumulations of bat droppings or staining. Binoculars were used to inspect any inaccessible areas more closely where appropriate.
- 2.3.4 **Trees – Ground Level Assessment.** Trees were assessed for their suitability to support roosting bats based on the presence of features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance⁵ as:
- Negligible;
 - Low;
 - Moderate; or
 - High.
- 2.3.5 Any potential roost features identified were also inspected for any signs indicating possible use by bats, e.g. staining, scratch marks, bat droppings, etc.

Activity Surveys

- 2.3.6 A walked transect survey was undertaken in May, July and September 2022 to ascertain the level of usage of the site by foraging and/or commuting bats. This survey method involves walking planned transect routes with key listening points, specifically covering habitats/features with particular potential for commuting or foraging bats. Echometer EM3,

⁴ Surveys based on: English Nature (2004) 'Bat Mitigation Guidelines' and Collins, J. (ed.) (2016) 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).' Bat Conservation Trust

⁵ Collins, J. (ed.) (2016) 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).' Bat Conservation Trust

EM Touch and/or Anabat Scout handheld bat detectors were employed alongside BatBox Duet detectors to aid identification of any bats observed. Each transect was walked from approximately 15 minutes prior to sunset, for 2-3 hours, with a minimum 3 minute stop at each listening point. This methodology was repeated from 2 hours prior to sunrise to complete the dawn survey.

- 2.3.7 This survey work was carried out during suitable weather conditions, as set out in Tables 2.1 below.

Table 2.1. Dusk walked transect survey details.

Date	Start & end times & time of sunset	Equipment used	Weather
12/05/2022	Start time: 21.00 End time: 23.00 Sunset: 20.40	Bat Box Duet, Echo Meter EM3 and Echo Meter EM Touch and Anabat Scout.	Dry, 75% cloud, BF1, 12°C
Comments: The survey was undertaken by 2 surveyors.			
14/07/2022	Start time: 21:12 End time: 23:12 Sunset: 20:52	Bat Box Duet, Echo Meter EM3 and Echo Meter EM Touch and Anabat Scout.	Dry, 0% cloud, BF1, 21°C
Comments: The survey was undertaken by 2 surveyors.			
14/09/2022	Start time: 19:18 End time: 21:18 Sunset: 18:58	Bat Box Duet, Echo Meter EM3 and Echo Meter EM Touch and Anabat Scout.	Dry, 5% cloud, BF1, 15°C
Comments: The survey was undertaken by 2 surveyors.			

BF0 = calm, BF12 = hurricane force

- 2.3.8 Automated static detector surveys were also carried out during which Song Meter 2 (SM2) detectors were positioned at two locations within the site from the 12th to 19th May 2022, the 14th to the 21st of July 2022 and the 14th to the 21st of September 2022 to record any bat activity. Detector 1 was situated on the central southern boundary, within woodland compartment 3 and detector 2 was located adjacent to Pond P2 in the south-east of the site (see Plan 6455/ECO4). The detectors were set to switch on approximately 30 minutes before sunset and switch off approximately 30 minutes after sunrise. The weather conditions during the static detector surveys are provided in Table 2.2 below.

Table 2.2. Automated detector survey details.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°)	Cloud Cover (%)	Precipitation
12/05/2022	1	12	75	Dry
14/07/2022	1	21	0	Dry
14/09/2022	1	15	5	Dry

BF0 = calm, BF12 = hurricane force

Analysis of Bat Survey Recordings

- 2.3.9 All bat calls were analysed using Analook W v4.4a to verify the species recorded during the survey work. Where recordings could not be reliably attributed to species (such as for *Myotis* species) or where overlaps between otherwise distinguishable species occur (such as in Pipistrelle bat calls around 40kHz or 50kHz) calls were identified to genus level; in the case of calls which could not be distinguished between *Nyctalus* sp. and Serotine, these have been labelled as 'unidentified big bat' species.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Dormouse (*Muscardinus avellanarius*)⁷

2.3.12 Surveys were undertaken to establish the presence/absence of Dormouse within the site from April to October 2022. Survey work followed the methodology set out within best practice guidance⁷, whereby nesting tubes are attached to branches of trees and shrubs and checked on a regular basis for signs of use by Dormouse.

2.3.13 The guidance employs an indexation system to define survey effort, based on the number of tubes deployed and months over which these are in place and are checked for signs of use. Months in which use of nest tubes by Dormouse is more likely afford a higher number of points than months when there is a lower likelihood of use. The guidance recommends that determination of absence of Dormouse from a site should be based on a survey effort score of at least 20 points.

2.3.14 Accordingly, a total of 75 Dormouse nest tubes were deployed within the site in April 2022, with the majority spread out across field boundaries, as well as 10 within the south west field and 10 adjacent to the dry ditch in this field (see Plan 6455/ECO5). Nest tubes were checked in from May through to October 2022.

Reptiles⁸

2.3.15 Given the presence of potentially suitable reptile habitat within the site, specific surveys were undertaken to establish the presence/absence of common reptile species between May and September 2022.

⁶ Based on: Mammal Society (1989) 'Occasional Publication No. 9 – [REDACTED]',

⁷ Based on: English Nature (2003) 'Surveying dormice using nest tubes: Results and experiences from the South West Dormouse Project', English Nature (2006) 'The Dormouse Conservation Handbook', 2nd Edition, English Nature Research Report No. 524; and Natural England (2011) 'Interim Natural England Advice Note – Dormouse surveys for mitigation licensing – best practice and common misconceptions', WML-537 (12/11)

⁸ Surveys based on: Froglife Advice Sheet 10 (1999) 'Reptile Survey - an introduction to planning, conducting and interpreting surveys for snake and lizard conservation.'

- 2.3.16 A total of one hundred and eighty 50x50cm sheets of thick roofing felt were placed within suitable areas across the site to act as artificial refugia, which represents a density of 30 refugia per hectare (see Plan 6455/ECO6). The refugia, or 'tins', provide shelter and heat up more quickly than their surroundings in the morning and can remain warmer than their surroundings in the late afternoon. Being ectothermic (cold blooded), reptiles use them to bask under and raise their body temperature, which allows them to forage earlier and later in the day. Therefore, checking the refugia at appropriate times of the day (morning and evening) enables the presence/absence of common reptiles to be determined.
- 2.3.17 The refugia remained undisturbed for approximately 1-2 weeks to allow reptiles to find and start using them. Following this initial bedding-in period, refugia were checked at appropriate times of the day on five occasions during suitable weather conditions, as set out below in Table 2.1.

Table 2.1. Reptile survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°)	Cloud Cover (%)	Precipitation
11/05/2022	4	14	95	Dry
16/05/2022	3	15	95	Dry
09/06/2022	1	15	10	Dry
13/06/2022	2	15	0	Dry
21/06/2022	2	16	70	Dry

BF0 = calm, BF12 = hurricane force

- 2.3.18 The surveys on the 13th and 21st June were compromised due to the accidental removal/damage of refugia, with approximately 80 refugia damaged prior to these surveys taking place. To ensure that sufficient survey effort was exerted, additional refugia were set out in August 2022, with refugia then checked at appropriate as per the below (Table 2.2), such that the minimum 7 survey visits was completed.

Table 2.2. Reptile survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°)	Cloud Cover (%)	Precipitation
15/09/2022	2	15	100	Dry
21/09/2022	0	16	10	Dry
24/09/2022	2	11	30	Dry
28/09/2022	2	15	20	Dry

BF0 = calm, BF12 = hurricane force

- 2.3.19 In addition, reptiles basking in the open or partial cover were actively searched for in suitable locations across the site through direct observation. Existing natural objects (e.g. logs and rocks) and artificial refugia (e.g. debris, tyres, etc.) were also searched, where present, for reptiles or evidence of reptiles (e.g. sloughed skin).

Great Crested Newt (*Triturus cristatus*)

Habitat Suitability Index (HSI)

- 2.3.20 As a first step in identifying the potential presence of Great Crested Newt at the site, a Habitat Suitability Index (HSI) study was undertaken of all relevant water bodies within 250m⁹ of the site boundary (based on a review of Ordnance Survey mapping and satellite

⁹ 250m is the typical maximum migratory range of this species, see English Nature (2004) 'An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt *Triturus cristatus*'. English Nature Research Report 576

imagery). Guidance set out within Natural England's Method Statement template, to be used when applying for a Great Crested Newt development licence, states that surveys of ponds within 500m of the site boundary are only required when '(a) data indicates that the pond(s) has potential to support a large Great Crested Newt population, (b) the footprint contains particularly favourable habitat, (c) the development would have a substantial negative effect on that habitat and (d) there is an absence of dispersal barriers.' Given that in this instance, none of the four points listed above are applicable to the site, it is considered that survey of ponds within 500m of the site boundary is not required, and that survey of ponds within 250m represents adequate survey effort.

2.3.21 An HSI study is used to assess the potential of water bodies to support Great Crested Newt. It is undertaken by attributing a score to a number of factors that can affect the presence or absence of this species. Ten factors are utilised in an HSI assessment, as described below:

- *SI1 Location.* The location of the water body within Great Britain;
- *SI2 Pond area.* The size of the water body;
- *SI3 Permanence.* How often the water body dries out;
- *SI4 Water Quality.* The water quality, based primarily on invertebrate diversity;
- *SI5 Shade.* The percentage of the perimeter of the water body that is shaded;
- *SI6 Fowl.* The presence or absence of water fowl;
- *SI7 Fish.* The presence or absence of fish;
- *SI8 Pond Count.* The number of water bodies within 1km of the surveyed water body (not counting those on the far side of major barriers such as roads);
- *SI9 Terrestrial.* The quality of terrestrial habitat surrounding the water body; and
- *SI10 Macrophytes.* The percentage cover of the surface area of the water body covered by macrophytes (aquatic plants).

2.3.22 The overall suitability of the water body is then determined by entering these figures into an equation devised by Oldham *et al.* (2000)¹⁰. The suitability of water bodies is classed into one of five categories, either 'poor', 'below average', 'average', 'good' or 'excellent'.

2.3.23 This HSI study was undertaken in line with the guidelines developed by Oldham *et al.* and subsequently adapted by ARG UK (2010)¹¹. A suitably experienced ecologist undertook the assessment in line with these guidelines, with the study also supplemented by desktop research where appropriate.

Detailed presence / absence survey

2.3.24 Two onsite ponds, P1 and P2 (see Plan 6455/ECO7) were subject to further specific Great Crested Newt survey between May and June 2022, along with the offsite ponds P5, P6, P7 and P8, which were accessible for survey (P9 was not surveyed due to this pond being dry).

2.3.25 Surveys were undertaken in suitable weather conditions, using at least three methods per visit (where possible) in accordance with the 'Great Crested Newt Mitigation Guidelines'¹² to determine the presence or absence of Great Crested Newt. Suitable weather conditions

¹⁰ Oldham RS, Keeble J, Swan MJS & Jeffcote M (2000) 'Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*)'. Herpetological Journal 10 (4), 143-155

¹¹ Amphibian & Reptile Groups of the UK (2010) 'ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index'

¹² Surveys based on: English Nature (2001) 'Great Crested Newt Mitigation Guidelines'

are those nights when the night-time air temperature is 5°C or warmer. All surveys were conducted during such conditions.

- 2.3.26 Torch surveys involved the use of high-powered torches (min. 50,000 candlepower) to count the number of each amphibian species present. As recommended by the guidance, the entire margin of each water body was walked once, slowly searching for Great Crested Newt.
- 2.3.27 Bottle-trapping involved setting traps made from 2-litre plastic bottles around the pond margins, and leaving the traps in place overnight before checking them the following morning. A density of one trap every two metres of shoreline was employed, where possible, as recommended by the guidance.
- 2.3.28 In theory, netting involves sampling for a period dictated by the size of the water body, and the guidance recommends 15 minutes of search time for every 50 metres of shoreline. In practice, where undertaken, the search time significantly exceeded this value.
- 2.3.29 Where suitable vegetation was present within the waterbody, egg searching took place. This involved searching for newt eggs amongst vegetation and unfolding leaves where necessary to confirm species identification. As recommended by the guidance, once a Great Crested Newt egg had been identified no further egg searching was carried out.
- 2.3.30 Terrestrial habitats were also searched for Great Crested Newts. This involved searching under logs, rocks and debris, which are favoured resting places.

Breeding Birds¹³

- 2.3.31 The use of the site by breeding birds was assessed over three survey visits, (on separate days) in April, May and June 2022. Birds present within the site were recorded using a method modified from the British Trust for Ornithology's (BTO's) Common Bird Census technique.
- 2.3.32 This involved walking a route over the site and recording all 'registrations' of birds either seen or heard. The sightings or 'registrations' were recorded on a site plan using standard BTO codes for each bird species and appropriate abbreviations.
- 2.3.33 This survey methodology has the advantage over other survey methods of mapping each registration to a specific point within the site and this therefore illustrates those areas containing the highest density and diversity of bird species. The dates of each survey, together with a summary of the weather conditions are given in Table 2.3 below.

Table 2.3. Breeding bird survey dates and weather conditions.

Survey Date	Weather Conditions			
	Wind (BF)	Temp(°C)	Cloud Cover (%)	Precipitation (0-5)
06/05/2022	1	10	0	Dry
30/05/2022	2	15	80	Dry
25/06/2022	2	16	20	Dry

¹³ Surveys based on methodology within: Baille *et al.* RA (2010) 'Breeding Birds in the Wider Countryside: their conservation status', BTO Research Report No. 385, BTO, Thetford.

2.4 Survey Constraints and Limitations

Habitat Surveys

- 2.4.1 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. The Phase 1 habitat survey was undertaken within the optimal season therefore allowing a robust assessment of habitats and botanical interest across the site.
- 2.4.2 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.
- 2.4.3 The AWI mapping survey aimed to inform an evaluation as to the representative distribution of AWIs within the woodland compartments. The species lists are therefore not intended to be exhaustive but rather provide a representative list of the botanical composition of the woodland compartments, and the distribution of AWIs therein. Although every effort was made to accurately map AWI distribution, GPS signal is intermittent in closed-canopy woodland which leads to some margin for error. The survey work was undertaken within the optimal period for woodland ground flora survey, although later flowering species such as grasses may have been overlooked. Nevertheless, it is considered that the survey work undertaken is appropriate to assess the botanical quality of the woodland compartments.

Bat surveys

- 2.4.4 Access was unavailable for internal areas of buildings. As a consequence a full internal bat survey could not be undertaken. However, a comprehensive external survey was carried out, which identified the buildings to be of modern agricultural construction, lacking loft voids or roof spaces. As such, the buildings are considered to be unsuitable for roosting bats, such that an external survey is sufficient to form an evaluation.
- 2.4.5 A recognised limitation of the bat activity surveys is that bat detectors can only provide an index of activity rather than absolute numbers of bats. Therefore, the results of the bat activity surveys should only be considered indicative of the amount of use bats make of an area rather than the abundance of bats. In addition, some bat species, e.g. Brown Long-eared Bat, are difficult to detect due to their quiet echolocation calls.

Great Crested Newts

- 2.4.7 HSI scores in respect of pond suitability for Great Crested Newts require aquatic macrophyte vegetation to be assessed within the optimal season of May to September. This survey work was completed in early spring (outside the optimal period), albeit a conservative estimate was able to be calculated during this element of the survey work. In any case, full

presence/absence survey work was carried out on ponds, such that a full assessment of ponds with respect to Great Crested Newts has been completed.

- 2.4.8 Access was not granted to the offsite ponds 'P3' and 'P4', and as such neither HSI or presence/absence surveys could be completed. This was despite letters being issued to likely landowners and enquiries made in advance of surveys being undertaken. Securing access to ponds in third party land is not always possible, though for this site four offsite ponds were surveyed, and as such a high survey effort has been undertaken. Indeed, the majority of ponds in and around the site have been subject to full presence/absence surveys, such that a high coverage of survey effort has been possible and enabling an accurate assessment of the likely presence/absence of Great Crested Newt.

2.5 Ecological Evaluation Methodology

- 2.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)¹⁴, which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). For full details refer to Appendix 6455/1.

2.6 National Policy Approach to Biodiversity in the Planning System

- 2.6.1 The National Planning Policy Framework (NPPF)¹⁵ describes the Government's national policies on 'conserving and enhancing the natural environment' (Chapter 15). NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' and ODPM Circular 06/2005¹⁶.

- 2.6.2 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss¹⁷, as set out at Paragraph 174, which states that planning policies and decisions should contribute to and enhance the natural and local environment by:

'minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures'

- 2.6.3 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 180:

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

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in*

¹⁴ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', ver. 1.2, Chartered Institute of Ecology and Environmental Management, Winchester

¹⁵ Ministry of Housing, Communities & Local Government (2021) 'National Planning Policy Framework'

¹⁶ ODPM (2006) 'Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice'

¹⁷ DEFRA (2011) 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services'

combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.'*

2.6.4 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019¹⁸, which involves the following step-wise process:

- **Avoidance** – avoiding adverse effects through good design;
- **Mitigation** – where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation** – where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement** – planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

2.6.5 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

2.7 Local Policy

1.1.1 The site falls under the jurisdiction of Horsham District Council. The current Local Plan is set out within the Horsham District Planning Framework document, which was adopted in 2015. The following policies from this document are of particular relevance:

- **Policy 2 (Strategic Policy: Strategic Development);** requiring retention and enhancement of biodiversity; and
- **Policy 31 (Green Infrastructure and Biodiversity);** requiring enhancement of the existing network of green infrastructure and protection of international, national and local designations of nature conservation interest. This includes a requirement for an Appropriate Assessment for any development that has potential to impact Arun Valley SAC.

¹⁸ British Standards Institution (2013) 'Biodiversity – Code of practice for planning and development', BS 42020:2019

3 Ecological Designations

3.1 Statutory Designations

Description

- 3.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 6455/ECO2. The nearest statutory designation is Sullington Warren Site of Special Scientific Interest (SSSI) located approximately 2.56km south-west of the site. The SSSI is designated on the basis of it supporting a range of heathland habitats and a rich community of breeding birds. The next nearest statutory designation is Chantry Mill SSSI located approximately 3.2km to the south west of the site. Chantry Mill SSSI is designated for its geological interest.
- 3.1.2 The closest international/European designation is Arun Valley Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar (overlapping designations), located approximately 6.2km west of the site at its nearest point. Arun Valley SPA/SAC/Ramsar is designated on the basis of it supporting an important population of Bewick's Swan *Cygnus columbianus bewickii*, one of three main populations of Ramshorn Snail *Anisus vorticulus* and habitats with rich assemblages of invertebrates and aquatic fauna, respectively.
- 3.1.3 Natural England has developed Impact Risk Zones (IRZs) as an initial tool to help assess the risk of developments adversely affecting SSSIs, taking into account the type and scale of developments. The site sits within an IRZ in relation to several designations in the wider area, however the IRZ does not apply to residential development.

Evaluation

- 3.1.4 The site itself is not subject to any statutory ecological designations. All statutory ecological designations in the surrounding area are well separated from the site by existing development and given the nature and scale of the proposals, these designations are unlikely to be affected.
- 3.1.5 With respect to Arun valley SPA/SAC/Ramsar, the site falls within the Sussex North Water Supply Zone, which is a zone of influence that surrounds this designation. Natural England has taken the position that 'the Sussex North Water Supply Zone includes supplies from a groundwater abstraction which cannot, with certainty, conclude no adverse effect on the integrity of Arun Valley Special Area Conservation (SAC), Special Protection Area (SPA), Ramsar Site. As such, mitigation measures are required to ensure that the proposed development does not contribute to any adverse effects of abstraction, and this is discussed in full within an Appropriate Assessment (reported under separate cover). In summary, the Appropriate Assessment has demonstrated that water neutrality can be delivered under the proposed scheme, thereby providing assurance (beyond scientific doubt) that the proposed development will not adversely effect the integrity of Arun Valley SPA/SAC/Ramsar.

3.2 Non-statutory Designations

Description

- 3.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 6455/ECO2. The nearest non-statutory designation is America and Gratwicke's Wood Local Wildlife Site (LWS) located approximately 0.73km north east of the

site. The next nearest non-statutory designation is Hooklands Farm Meadow LWS located approximately 1.96km south west of the site.

- 3.2.2 The nearest non-statutory designation, America and Gratwicke's Wood LWS, is designated on the basis of it comprising an Oak, Ash and Hazel Woodland lying on the Weald Clay with wet areas supporting Alder and Aspen, providing good habitat for birds and insects. The next nearest non-statutory designation, Hooklands Farm Meadow LWS, is designated on the basis of it comprising an excellent example of unimproved damp grassland, which is very species-rich and surrounded by mature hedgerows, with a stream running through it.

Evaluation

- 3.2.3 The site itself is not subject to any non-statutory nature conservation designations. All non-statutory designations in the surrounding area are well separated from the site by existing development and/or major roads and given the nature and scale of the proposals, these designations are unlikely to be affected.

3.3 Priority Habitats, Ancient Woodland and Notable Trees

Description

- 3.3.1 There are no records of any notable or veteran trees within or adjacent to the site. The site contains a small area of woodland that is identified in MAGIC as the Priority Habitat 'Deciduous Woodland'. This is discussed further within the relevant habitat section in Chapter 4 below.

Evaluation

- 3.3.2 Subject to the implementation of appropriate mitigation measures (as discussed below in Chapter 4) it is unlikely that any Priority Habitats or any notable or veteran trees will be significantly affected by the proposals.

3.4 Summary

- 3.4.1 In summary, the site itself is not subject to any statutory or non-statutory ecological designations and, subject to the implementation of appropriate mitigation measures (as described above), it is unlikely that any such designations in the surrounding area will be significantly affected by the proposals.

4 Habitats and Ecological Features

4.1 Background Records

- 4.1.1 A number of records of Priority Species were returned from Sussex Biodiversity Records Centre including Galingale *Cyperus longus* and Bluebell *Hyacinthoides non-scripta*, none of which were recorded within or adjacent to the site. No evidence for the presence of any of these species within the site was recorded during the survey work undertaken.

4.2 Overview

- 4.2.1 The habitats and ecological features present within the site are described below and evaluated in terms of whether they constitute an important ecological feature and their level of importance, taking into account the status of habitat types and the presence of rare plant communities or individual plant species of elevated interest. The likely effects of the proposals on the habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in Chapter 5 below.

- 4.2.2 The following habitats/ecological features were identified within/adjacent to the site:

- Arable;
- Woodland;
- Improved Grassland;
- Semi-improved Grassland;
- Amenity Grassland;
- Allotment;
- Ponds;
- Ditches;
- Hedgerows / Treelines / Scattered Trees;
- Dense Scrub / Bramble and
- Buildings and Hardstanding.

- 4.2.3 The locations of these habitat types and features are illustrated on Plan 6455/ECO3 and described in detail below.

4.3 Priority Habitats

- 4.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

- 4.3.2 Of the habitats within the site, the woodland is considered to qualify as Priority Habitat and therefore constitutes an important ecological feature. This is discussed further in the relevant habitat section below.

4.4 Arable

Description

- 4.4.1 The majority of the site is formed by arable land, as indicated on Plan 6455/ECO3. These fields comprise intensively managed arable land, planted with a winter crop at the time of initial survey, with only infrequent ruderal weeds otherwise present.

Evaluation

- 4.4.2 The arable fields are intensively managed and predominantly comprise a single crop and are accordingly of inherently negligible ecological value. As such any losses to the proposals will therefore be of negligible ecological significance.

4.5 Woodland

Description

- 4.5.1 The south western section of the site comprises an area of deciduous woodland, which also extends as a narrow strip along the southern extent of the central arable field (see Plan 6455/ECO3). The main area of woodland is varied in nature, becoming more mature and wetter to the south. The woodland can accordingly be split into 3 approximate compartments, as described below.

- 4.5.2 **Compartment 1a.** This compartment comprises young colonising woodland with a variable structure. In places, a dense and young, even-aged canopy is present, mostly represented by Goat Willow and Pedunculate Oak, over a sparse understorey and field layer, although Wood Dock persists sporadically throughout. Elsewhere, the canopy layer has yet to establish and instead dense shrub thickets are present, such as Blackthorn and Bramble, while in other areas the vegetation is limited to more open herbaceous vegetation characterised by species associated with damp ground such as Soft Rush, Cuckooflower, Short-fruited Willowherb, and Hemp-agrimony

- 4.5.3 Ancient woodland indicator species (AWIs) are infrequent within the interior and limited to species including Pendulous Sedge *Carex pendula* and Field Maple *Acer campestre*. The northern woodland edge supports more AWIs, as well as along the adjacent treeline (TL3). In total, there are four AWIs within the interior and northern edge, as well as an additional three species in TL3. The understorey is occasionally more open in nature, with the small clearings supporting more frequent rushes, sedges and grasses.

- 4.5.4 This compartment is subject to minor informal public access, in the form of narrow pathways, but dense vegetation constraints any public access across the majority of the compartment.

- 4.5.5 **Compartment 1b.** This compartment is somewhat more established than C1a, but still recent in origin, supporting a continuous even-aged canopy dominated by Goat Willow. For the most part, the understorey and field layers are very sparse (even absent), the latter including scattered Enchanter's-nightshade, Wood Dock, and Common Nettle. However, denser areas of shrub or ground flora cover are present in the west, which are typically dominated by Common Nettle or Bramble. The topographical survey shows a pond towards the west of the compartment, adjacent to C2, but this was completely dry at the time of survey.

- 4.5.6 Only occasional AWI species are present including Moschatel *Adoxa moschatellina* (apparently colonised from more species rich woodland (such as Compartment 2, see below), Pendulous Sedge and Field Maple, as well as six other AWI species that were recorded as rare within the compartment.
- 4.5.7 **Compartment 2.** This compartment is located along the southern boundary of the central field (see Plan 6455/ECO3), where it forms a belt of widely spaced mature Pedunculate Oaks. The understorey structure is variable, comprising locally dense thickets in the east, including Field Maple, Hazel, and Blackthorn, but becoming much sparser towards the west. The ground flora is dense and continuous throughout most of the compartment, characterised by dominant Bluebell interspersed with much Greater Stitchwort and Wood False-brome, while Wood Anemone is abundant towards the west. A good diversity of AWIs is present considering the small size of the woodland, including Three-nerved Sandwort, Pignut, Black Bryony, and Field Rose, with a total count of 11 AWIs. The compartment is subject to occasional informal public access in the west, with a narrow path running through the centre, which does not appear to cause any substantial adverse effects.
- 4.5.8 In general, the interface between the woodland and other onsite habitats is sharply defined, quickly transitioning to intensively managed arable fields, with no natural ecotone present along the woodland edge.
- 4.5.9 Evaluation
- 4.5.10 Compartments 1a and 1b are demonstrably recent woodlands (around 20 years old) with a low diversity of woodland plant species, which stands in stark contrast to the long-established compartment 2. The limited spread of AWIs into 1a and 1b from the adjacent historic woodlands suggests that the soil conditions in 1a and 1b are unfavourable for most AWIs. This could be explained by eutrophication and/or compaction from previous agricultural use, which is indicated by the prevalence of species such as Goat Willow and Wood Dock. These two compartments are therefore poor quality examples of deciduous woodland.
- 4.5.11 In contrast, compartment 2 is much longer established and support a good diversity and coverage of AWIs and other woodland plant species, representing good quality examples of the habitat type despite their small size and apparent lack of management.
- 4.5.12 As such compartments 1a and 1b are important ecological features, but only at the site level, whilst compartment 2 is an important ecological feature at the local level.
- 4.5.13 It is therefore recommended that the forthcoming scheme incorporates the full retention of the onsite woodland habitat, specifically including the full retention of compartment 2 within a 15m buffer zone. Indeed, the current layout depicts such an arrangement, with all woodland habitat retained and no development proposed within 15m of compartment 2. This not only safeguards compartment 2, but also offers an opportunity to enhance the setting of the woodland, removing it from an intensive agricultural setting and instead creating a semi-natural habitat and natural eco-tone (and as such both removing negative physical and chemical effects of farming, and creating favorable abiotic conditions and new habitat opportunities for a range of wildlife).
- 4.5.14 Further mitigation measures are set out in Chapter 6 to ensure this habitat is fully safeguarded.

4.6 Improved Grassland

Description

- 4.6.1 The south eastern field (see Plan 6455/ECO3) comprises improved grassland, which is well-managed in nature, with a uniform grass dominant sward approximately 10cm in height. Species present include Perennial Ryegrass, Cocksfoot *Dactylis glomerata* and Fescue *Festuca sp.* Herbs are infrequent, and include Broad-leaved Dock *Rumex obtusifolius*, Common Daisy *Bellis perennis*, Common Dandelion *Taraxacum officinale* and Dove's Foot Cranesbill *Geranium molle*. Several additional species are present within the southernmost field, including, Creeping Buttercup *Ranunculus repens* and Ribwort Plantain *Plantago lanceolata*, whilst occasional escapes from allotments were noted in the northernmost area of improved grassland.

Evaluation

- 4.6.2 Overall, the grassland supports a low diversity of common and widespread species and as such, it is considered to be of ecological value at the site level only, and does not constitute an important ecological feature.

4.7 Semi-improved Grassland

Description

- 4.7.1 Semi-improved grass margins are present along many of the arable field margins, varying from approximately 2-4m in width, with no evidence of management for ecological benefit. They are grass dominated, with other species occasionally present including Sedges, Primrose, Vetch, Dog's Mercury, Common Field Speedwell *Veronica persica* and Cow Parsley *Anthriscus sylvestris*.

Evaluation

- 4.7.2 Overall, the grassland supports a low diversity of common and widespread species and based on the type and abundance of species present it can be classified as semi-improved grassland¹⁹, though does not qualify as a Priority Habitat. The grassland is accordingly considered to be of ecological value at the site level only, and does not form an important ecological feature.
- 4.7.3 The potential for the rough grassland to support fauna such as reptiles is discussed in Chapter 5 below.

4.8 Amenity Grassland

Description

- 4.8.1 A small area of amenity grassland is located on a verge along the access track within the eastern section of the site. This area of grassland is small in scale and well-managed in nature, having a grass dominant sward, which is occasionally disturbed by vehicles.

¹⁹ Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

Evaluation

- 4.8.2 Given the small scale and disturbed nature of this habitat, the amenity grassland is considered to be of negligible ecological value.

4.9 Allotment

Description

- 4.9.1 A small allotment area is located in the east of the site. Access into this area was restricted at the time of survey, but a full view from the perimeter of the allotment identified the area to support various polytunnels and raised beds, all under active cultivation.

4.9.2 Evaluation

- 4.9.3 Given the small scale of this habitat, the allotment is considered to be of relatively low ecological value and as such is not an important ecological feature. However, it is recognised that allotments can provide opportunities for various pollinators and small mammals, and similar provisions will be created under the proposals through the delivery of new allotment areas.

4.10 Ponds

Description

- 4.10.1 Two ponds are located within the site, associated with field boundaries (labelled P1 and P2 Plan 6455/ECO3). An additional 7 ponds are located within 250m of the site. The onsite ponds (P1-P2) are described in Table 4.1 below:

Table 4.1. Pond descriptions.

Pond no.	Brief description	Approx. size	Shading	Aquatic/ emergent & marginal vegetation	Comments
P1	Field edge pond	10x10m	Heavily over shaded by adjacent treeline.	Occasional Rushes <i>Juncus</i> sp. present, Duckweed <i>Lemna minor</i> on much of the surface. Potential invasive <i>Crassula</i> present.	Small field pond, linked to dry ditch at field boundary. Pond recorded to dry in the summer.
P2	Field pond	30x15m	Significant shading from surrounding scrub and trees.	Frequent emergent vegetation around the pond's perimeter, dominated by Sedges. Aquatic vegetation becoming evident within the pond.	Large, high quality pond set at field edge. Small island in middle with tree / scrub cover. Waterfowl nest platform within the pond and pond dipping platform present. Scrub and tree cover present around pond perimeter.

Evaluation

- 4.10.2 Pond P2 supports a reasonable amount of aquatic and emergent vegetation and therefore is of high ecological value. Pond P1's value is more limited due to the likely presence of invasive New Zealand Pygmyweed *Crassula helmsii*, whilst the pond was also recorded to dry out in the summer months. The ponds are accordingly both considered to form important ecological features of value (P1 at the site level and P2 at the local level), and are recommended for retention. Under the current proposals both ponds are fully retained and safeguarded. Indeed, pond P1 will be removed from an intensive agricultural setting and

instead will be set within a semi-natural grassland habitat (and as such remove both negative physical and chemical effects of farming, and create new habitat opportunities for a range of wildlife in a wider wildlife corridor).

- 4.10.3 Potential for the ponds to support faunal species such as amphibians is discussed below in Chapter 5.

4.11 Ditches

Description

- 4.11.1 A number of ditches are present at the site including a dry ditch along the western site boundary / southern section of the woodland, and a wet ditch (D1) along part of the northern site boundary (see Plan 6455/ECO3).
- 4.11.2 The wet ditch holds approximately 6cm of water, with a gentle flow from east to west. Aquatic / emergent vegetation is predominantly absent from within the wet ditch, though Rushes and Sedges are present along its banks, which are steep and approximately 2m in height.
- 4.11.3 The dry ditch includes occasional damp sections, though does not support any emergent or aquatic vegetation. Other dry ditches are present in association with treelines at the site, as described below.

Evaluation

- 4.11.4 The ditches at the site are of limited value, due to their lack of aquatic / emergent vegetation. They do however provide corridors for wildlife, in particular given their location at the site and field boundaries. The ditches are therefore considered to be of ecological value at the site level, though do not form important ecological features.

4.12 Hedgerows, Treelines and Scattered Trees

Description

- 4.12.1 A number of hedgerows and treelines are present within the site, located at the site and field boundaries. The hedgerows and treelines are described in more detail in Table 4.2 below.

Table 4.2. Hedgerow descriptions.

No.	H	W	Woody species	Avg. per 30m*	Ground flora & climbers	Associated features	Comments (including structure / management)	Likely to qualify#
H1	2m	2m	<u>Blackthorn (D), Oak</u>	<4	Bramble, Lords & <u>Ladies</u>	<10% gaps, shallow / dry ditch, connects with hedges	Well managed by flailing, Oak standard tree	N
H2	2m	2m	<u>Blackthorn (D), Oak, Elder</u>	<4	Bramble, Lords & <u>Ladies</u>	<10% gaps, shallow / dry ditch, connects with hedges	Well managed by flailing	N
H3	2m	2m	Blackthorn, Hazel	<4	Bramble, Lords & <u>Ladies</u>	<10% gaps, shallow / wet ditch, connects with hedges	Well managed by flailing	N

No.	H	W	Woody species	Avg. per 30m*	Ground flora & climbers	Associated features	Comments (including structure / management)	Likely to qualify#
H4	2m	1.5-2m	<u>Hawthorn (D)</u> , <u>Ash</u> , <u>Elder</u> , <u>Rose</u> , <u>Blackthorn</u>	≥4	Mostly bare, with occasional Bramble, Ivy and Cleavers <i>Galium aparine</i>	Very shallow dry ditch, connects with hedges	Well managed by flailing	N
H5	3-4m	2-3m	Hawthorn, Hazel, <u>Rose</u> , <u>Blackthorn</u> , <u>Ash</u>	≥4	Ivy, Sedges	Wet ditch	Relatively outgrown, effectively a band of linear scrub around pond P. Alder standard tree.	N
H6	3-4m	2-3m	<u>Blackthorn</u> , <u>Hawthorn</u>	<4	In common with adjacent field described above	<10% gaps	Relatively well managed	N
H7	2m	3m	<u>Hazel</u> , <u>Blackthorn</u> , <u>Hawthorn</u> , <u>Field Maple</u> , <u>Dog-rose</u> , <u>Field Rose</u> , <u>Elder</u> , <u>Pedunculate Oak</u> , Bramble	≥4	Mostly bare, with occasional Bramble, Ivy and Cleavers <i>Galium aparine</i>	Very shallow dry ditch, <10% gaps and connects with other hedges	Relatively outgrown	N
TL1	-	-	Oak (D), Rose, <u>Hawthorn</u> , <u>Holly</u>	<4	Mostly bare / leaf litter, with occasional False Oat Grass, Ragwort <i>Senecio jacobaea</i> , Garlic Mustard <i>Alliaria petiolata</i> , Thistles, Dog's Mercury and Ground Ivy.	Dry ditch	Continuous line of mature Oak and associated understorey	N/A
TL2	-	-	<u>Oak (D)</u> , <u>Hawthorn</u> , <u>Hazel</u>	<4	Sparse, where present includes Common Nettle <i>Urtica dioica</i> , Bristly Oxtongue <i>Helmintotheca echioides</i> and Buttercup sp.	Dry ditch	Similar to TL1, albeit a number of young failed trees are present	N/A
TL3	-	-	<u>Oak (D)</u> , understorey species present in common with adjacent woodland described above	<4	In common with adjacent woodland described above	N/A	Line of mature Oak trees distinct from woodland edge	N/A
TL4	-	-	<u>Oak</u> , Hawthorn, Blackthorn	<4	Bramble	Wet ditch with steep bank	Only 4 mature Oak trees, with the remainder young in nature.	N/A

Woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) and woodland ground flora species (as listed under Schedule 2 of the Hedgerows Regulations 1997) underlined, y = young, sm = semi-mature, m = mature, pv = possible veteran, B = bank, W = wall, br = bridleway, f/p = footpath, b/w = byway, (D) = dominant species

* estimated average number of woody species (as listed under Schedule 3 of the Hedgerows Regulations 1997) in any one 30m stretch

likely to qualify – as 'important' under the wildlife and landscape criteria of the Hedgerows Regulations 1997

4.12.2 Several scattered Oak trees are also located within the fields and near the buildings at the eastern section of the site, separate from the hedgerows / treelines (see Plan 6455/ECO3).

Evaluation

- 4.12.3 The hedgerows at the site are relatively dense and continuous in nature, though none are considered likely to qualify as ecologically 'important' under the Hedgerows Regulations 1997, based on the number of woody species and associated features.
- 4.12.4 All of the hedgerows within the site are however likely to qualify as a Priority Habitat based on the standard definition²⁰, which includes all hedgerows (>20m long and <5m wide) consisting predominantly (≥80%) of at least one native woody species. It has been estimated that approximately 84% of countryside hedgerows in GB qualify as a Priority Habitat under this definition.
- 4.12.5 On this basis, the hedgerows within the site constitute important ecological features at the local level. Accordingly, it is recommended that the proposals seek to incorporate the retention of the hedgerows as far as possible. Indeed, all treelines are retained under the proposals, with a small number of hedgerows to be removed (which will be compensated through new planting).
- 4.12.6 The treelines provide ecological connectivity throughout the site and to the surrounding habitats, in combination with the hedgerows. They are therefore also considered to be important ecological features at the local level, and are recommended for retention as far as is practicable. As per the hedgerows, all onsite treelines are retained and safeguarded under the proposals, with only small breaks proposed to facilitate access.
- 4.12.7 The scattered trees are of some inherent ecological value, due to comprising mature native specimens, though given the small number present, are considered to be of ecological value at the site level only. The scattered trees are accordingly recommended for retention under the forthcoming proposals where possible. Potential for the trees to support faunal species such as roosting bats is discussed below in Chapter 5.

4.13 Dense Scrub / Bramble

Description

- 4.13.1 Several areas of dense, unmanaged scrub and Bramble are located within and adjacent to the site (see Plan 6455/ECO3). Species present include Hazel, Hawthorn, Holly and Dogwood *Cornus sanguinea*.

Evaluation

- 4.13.2 The areas of scrub and Bramble are limited in extent, and comprise common and widespread species. Nonetheless, they likely provide some foraging and sheltering opportunities for a range of wildlife. The dense scrub / Bramble is therefore considered to be of ecological value at the site level only, and does not form an important ecological feature. Accordingly it is recommended that this habitat is retained where practicable, though any losses will be of minor ecological significance.

²⁰ Based on: Biodiversity Reporting and Information Group (2011) 'UK Biodiversity Action Plan (BAP) Priority Habitat Descriptions', ed. Ant Maddock

4.14 Buildings and Hardstanding

Description

4.14.1 Two buildings are located within the eastern section of the site, which are surrounded by areas of hardstanding, including a concrete access track.

4.14.2 The buildings comprise metal warehouse structures with a concrete base currently in commercial use. The buildings and associated hardstanding are in good condition, with colonising vegetation predominantly absent.

Evaluation

4.14.4 The buildings and hardstanding are of inherently negligible ecological value. As such, they do not form important ecological features and any losses under the proposals is of negligible ecological significance. Potential for the buildings to support faunal species such as roosting bats is discussed below in Chapter 5.

4.15 Habitat Evaluation Summary

4.15.1 On the basis of the above, the following habitats within and adjacent to the site are considered to form important ecological features:

Table 4.3. Evaluation summary of habitats forming important ecological features.

Habitat	Level of Importance
Woodland	Local
Ponds	Site (P1) Local (P2)
Hedgerows	Local
Treelines	Local

4.15.2 Other habitats present within the site include arable, semi-improved / improved & amenity grassland, ditches, scattered trees, dense scrub / Bramble and buildings & hardstanding. However, these habitats do not form important ecological features.

5 Faunal Use of the Site

5.1 Overview

- 5.1.1 During the survey work, general observations were made of any faunal use of the site with specific attention paid to the potential presence of protected or notable species. Specific survey work was undertaken in respect of [REDACTED] bats, Dormouse, Water Vole, Otter, reptiles, Great Crested Newt and Breeding Birds, with the results described below.

5.2 Priority Species

- 5.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of species which are of principal importance for conservation in England. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.
- 5.2.2 During the survey work undertaken, the Priority Species Dormouse *Muscardinus avellanarius*, Common Lizard *Zootoca vivipara*, and Slow Worm *Anguis fragilis* were recorded within the site. This is discussed further below.

5.3 Bats

- 5.3.1 **Legislation.** All British bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 6455/2 for detailed provisions). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard bats. Given all bats are protected species, they are considered to represent important ecological features. A number of bat species are also considered S41 Priority Species.
- 5.3.2 **Background Records.** No specific records of bats from within or adjacent to the site were returned from the desktop study. Information received from the LRC returned records of Serotine *Eptesicus serotinus*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Brown Long-eared *Plecotus auritus*, Noctule *Nyctalus noctula*, Nathusius's Pipistrelle *Pipistrellus nathusii*, Brandt's *Myotis brandti*, Natterer's *Myotis nattereri*, Daubenton's *Myotis daubentonii*, Western Barbastelle *Barbastella barbastellus* within 3km of the site. The closest record is for Serotine, recorded in 2020, located within 0.5km of the site boundary.

5.3.3 Survey Results

Visual Inspection Surveys

Buildings

- 5.3.4 A detailed external visual inspection was undertaken of all the buildings within the site. Buildings B1 and B2 comprise two modern agricultural buildings, of steel frame construction with a cement base, corrugated metal walls and open vault pitched metal / asbestos roofs.

Associated with these buildings are numerous portacabins and storage containers. These buildings and structures offer negligible roosting opportunities for bats and no evidence of roosting bats was recorded.

5.3.5 Trees

5.3.6 A number of semi-mature and mature trees are present on site. The results of the tree assessment work undertaken at the site are illustrated on Plan 6544/ECO3 and summarised in Table 5.1 below:

Table 5.1. Tree inspection results.

Tree No.	Species	Age	Potential Roost Features	Suitability
T1	Oak	Mature	Shallow rot hole, small split in limb	Low
T2	Oak	Mature	Size & age (such that features may be present out of sight) and presence of deadwood	Low
T3	Oak	Mature	Dense Ivy, Size & Age and Deadwood	Low
T4	Oak	Mature	Size & age (such that features may be present out of sight) and deadwood	Low
T5	Oak	Mature	Size & age (such that features may be present out of sight)	Low
T6	Oak	Mature	Size & age (such that features may be present out of sight)	Low
T7	Alder	Semi-mature	Dense Ivy	Low
TL1	Oak (D)	Mature	Mature trees generally support bat roosting features	Moderate
TL2	Oak (D)	Mature	Mature trees generally support bat roosting features	Moderate
TL3	Oak (D)	Mature	Mature trees generally support bat roosting features	Moderate
Woodland	Various mature trees, predominantly Oak	Various	Mature trees generally supporting bat roosting features	Moderate to High

Dusk and Dawn Surveys

Activity surveys (foraging /commuting)

5.3.7 The majority of the woodland compartments, ponds and ditches offer potential opportunities for foraging bats as they are likely to support a reasonable biomass of invertebrate prey. In addition, the boundary habitat, including the hedgerows and treelines could act as navigational aids for commuting bats and provide connectivity to similar off-site habitats in the surrounding area. As such, a bat activity survey was undertaken at the site in spring, summer and autumn 2022.

5.3.8 **Manual walked transect surveys.** The detailed activity survey results are illustrated on Plan 6455/ECO4, with summary tables provided below.

Table 5.2. Results of the dusk walked transect on 12th May 2022.

Species	Number of Passes Recorded	Approximate % of Total Passes Recorded
Common Pipistrelle	11	61
Soprano Pipistrelle	7	39
Noctule	0	0

Total	18	100
-------	----	-----

Table 5.3. Results of the dusk walked transect on 14th July 2022.

Species	Number of Passes Recorded	Approximate % of Total Passes Recorded
Common Pipistrelle	12	60
Soprano Pipistrelle	7	35
Noctule	1	5

Table 5.4. Results of the dusk walked transect on 14th September 2022.

Species	Number of Passes Recorded	Approximate % of Total Passes Recorded
Common Pipistrelle	4	25
Soprano Pipistrelle	11	69
Noctule	1	6

5.3.9 As shown by the above results, during the dusk survey in May 2022, Common Pipistrelle was the most commonly recorded species, accounting for 61% of all registrations. Soprano Pipistrelle was recorded to a lesser extent, accounting for 39%. During the dusk survey in July 2022, Common Pipistrelle was the most commonly recorded species, accounting for 60% of all registrations. Soprano Pipistrelle and Noctule was recorded to a lesser extent, accounting for 35% and 5% respectively. During the dusk survey in September 2022, Soprano Pipistrelle was the most commonly recorded species, accounting for 69% of all registrations. Soprano Pipistrelle and Noctule was recorded to a lesser extent, accounting for 25% and 6% respectively.

5.3.10 During the walked transects, higher levels of bat activity were recorded in the north west of the site, adjacent to pond P1 and treelines TL1 and TL2, as well as along TL3 and the adjacent habitats south of this (see Plan 6455/ECO4). Higher levels of bat activity were also recorded in the south west of the site, adjacent to woodland compartment 2, as well as hedgerows H1, H2 and H4 and comparatively lower levels of bat activity were recorded along the northern edges. Whilst the majority of the activity was limited to commuting passes, there was foraging activity recorded along treelines TL2 and TL3, as well as hedgerows H1, H2 and H4 suggesting that the overall foraging potential of the site is low.

5.3.11 Evaluation and Assessment of Likely Effects

Roosting

Buildings

5.3.12 Buildings B1 to B2 provide negligible suitability for roosting bats and no evidence of roosting bats was recorded during the survey work undertaken.

5.3.13 As such it is considered that no specific mitigation or licensing for bats is required. Nonetheless, bats are dynamic animals and as such it remains possible that individuals could colonise the site in the future. Natural England guidance in respect of European Protected Species²¹ such as bats advises that, even where proposals are reasonably unlikely to result in any offence, such that licensing is not required, reasonable precautions should be taken to minimise the risk to protected species in the unlikely event that they should be found during the course of the activity. Accordingly, recommended precautionary mitigation measures are set out at Chapter 6 below and subject to their implementation it is considered that bats will be fully safeguarded under the proposals.

²¹ Natural England (2013) 'European Protected Species: Mitigation Licensing - How to get a licence (WML-G12)'

Trees

- 5.3.14 It is recommended that, where practicable, all trees with bat potential are retained, which is anticipated to be achievable based on the current scheme. As such, subject to the implementation of the recommendation outlined at Chapter 6 below in relation lighting, it is considered that bats (should they make use of the onsite trees) will be fully safeguarded under the proposals.

Foraging / Commuting

- 5.3.15 As noted above, the woodland compartments, ponds, ditches and hedgerows and treelines within the site offer foraging/commuting habitat for bats and indeed foraging and commuting bats were recorded during the activity surveys, including frequent passes from one common species (Common Pipistrelle). This combination of habitat types occurs relatively frequently in the surrounding area and taking this into the account, together with the levels of activity and species recorded during the survey work, the site is considered to be of at least local level value to bats.
- 5.3.16 The majority of the woodland, trees and hedges within the site will be retained under the proposals (with only a small number of hedgerows proposed for removal). Indeed, the removal of the majority of the site from an agricultural setting and the strengthening of many of the linear features across the site (in particular including the provision of new wildflower grassland and scrub creation along TL1, TL2, TL4 and woodland compartment 2) will enhance the existing flight lines through the site for bats. In addition to widening and strengthening existing flight lines, enhancing the existing hedgerows and tree lines will enhance foraging opportunities for bats. The current arable fields support very little invertebrate interest (with invertebrate opportunities restricted to the site boundaries), and the creation of wider boundary features that include a varied mosaic of scrub and wildflower grassland will increase the diversity and biomass of invertebrates (prey items for bats) and thereby elevate the value of the site for bat species.
- 5.3.17 Accordingly, subject to the implementation of the recommendations outlined at Chapter 6 below, along with other ecological enhancements, it is considered that the conservation status of local bat populations will be fully safeguarded under the scheme.

5.4

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

²² English Nature (2002) 'Badgers and Development'

²³ Natural England (2011) 'Badgers and Development: A Guide to Best Practice and Licensing', Interim Guidance Document

5.5 Dormouse

- 5.5.1 Legislation.** Dormouse is fully protected under the Wildlife and Countryside Act 1981 (as amended) and is a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). Such legislation affords protection to individuals of the species and their breeding sites and places of rest (see Appendix 6455/2 for detailed provisions). Dormouse is also a S41 Priority Species. On this basis, Dormouse is considered to form an important ecological feature.
- 5.5.2 Background Records.** No specific records of Dormouse were returned from the desktop study from within or immediately adjacent to the study area. Data returned from SBRC includes eleven records of Dormouse within 3km of the site, with the closest record located 0.75km from the site and dated from 2014.
- 5.5.3 Survey Results.** The study area provides good opportunities for Dormouse, particularly in the form of areas of treelines, woodland, hedgerows and, to a lesser extent, scrub throughout the study area. The majority of the study area however is dominated by open grassland fields which are unsuitable for Dormouse.
- 5.5.4** Given the presence of potential Dormouse habitat within the study area, specific Dormouse survey work was undertaken at the site. The location of survey equipment (nest tubes) are shown at Plan 6455/ECO5, with the results shown in Table 5.5 below.

Table 5.5. Results of Dormouse nest tube survey undertaken in 2022.

Date	Evidence of Dormouse recorded
25 th May 2022	No evidence of Dormouse.
21 st June 2022	No evidence of Dormouse.
21 st July 2022	No evidence of Dormouse.
22 nd August 2022	No evidence of Dormouse.
21 st September 2022	No evidence of Dormouse.
20 th October 2022	Single Dormouse nest recorded within the north east section of hedgerow H2.
1 st November 2022	Dormouse recorded, on southern boundary of woodland compartment 1b

- 5.5.5 Evaluation.** From the survey work undertaken, it has been confirmed that Dormouse utilises some of the site boundary features (namely the hedgerows). Due to the background records and the fact that Sussex is located within the core distribution area for Dormouse, and the species is relatively widespread across the county²⁴, the population supported by the site is considered to be of importance at the local level.
- 5.5.6** Under the proposals, all woodland and the vast majority of boundary hedgerows within the site will be retained under the proposals, whilst new understorey planting can be delivered within woodland compartment 1b. As such, the proposed development will deliver enhancements for small mammals such as Dormice, potentially improving foraging and connectivity across the site which would benefit Dormice across the wider landscape.

²⁴ Mammal Watch South East (2015) *South East Mammal Atlas: covering Hampshire, Surrey, Sussex, Kent and the Isle of Wight*

- 5.5.7 However, short sections of hedgerow will be removed in order to facilitate proposed development within the site. Despite the very small scale of works that will affect habitat suitable for this species, given the legal protection afforded to Dormice, consideration will be given to licensing and implementation of appropriate safeguarding measures during vegetation clearance. Further discussion of this is set out at Section 6.

5.6 Other Mammals

- 5.6.1 **Legislation.** A number of other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). In addition, a number of these mammal species are S41 Priority Species and should be assessed as important ecological features.
- 5.6.2 **Background Records.** One record of Hedgehog *Erinaceus europaeus* (Priority Species) was returned from within the site, dated from July 2016. Other mammal species records returned from within 3km of the site include Rabbit *Oryctolagus cuniculus*, Polecat *Mustela putorius* (Priority Species) and Ferret *Mustela furo*, as well as further Hedgehog records.
- 5.6.3 **Survey Results and Evaluation.** No evidence of any other protected, rare or notable mammal species was recorded within the site. Other mammal species likely to utilise the site, such as Fox *Vulpes vulpes*, remain common in both a local and national context, and as mentioned above do not receive specific legislative protection in a development context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species to the proposals is of negligible significance.
- 5.6.4 The desktop study returned background records of Hedgehog within the surrounding area. Hedgehog is a Priority Species, albeit this species remains common and widespread in England. The site offers potential opportunities for this species, particularly in the form of the woodland, treelines, hedgerows, rough grassland and dense scrub/bramble, and Hedgehog is considered to be of importance at a site level only. In any event, abundant similar opportunities are present within the local area and there is no evidence to suggest the proposals will significantly affect local populations of this species. However, it is recommended that precautionary safeguards are put in place to minimise the risk of harm to Hedgehog in the event this species is present, as detailed in Chapter 6 below.

5.7 Amphibians

- 5.7.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 6455/2 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*. As such, these species should be assessed as important ecological features.
- 5.7.2 **Background Records.** No specific records of Great Crested Newt from within or adjacent to the site were returned from the desktop study. One record of Common Frog was returned from within the site, as well as records of Smooth Newt, Palmate Newt, Common Toad and Great Crested Newt. The closest record of Great Crested Newt was located approximately 0.85km from site and dated from 2010.

5.7.3 Survey Results. As discussed at Section 2 previously, nine ponds have been identified within 250m of the site (see Plan 6455/ECO6), located north, east and south. An initial appraisal of the majority of ponds was made using the HSI system to identify potential suitability to support Great Crested Newt, see Table 5.3, below. Pond P3 and P4 were not accessible and P9 was dry so no initial assessments or surveys could be conducted for these waterbodies.

Table 5.6. HSI survey results.

Pond	Suitability Indices										HSI Score	Suitability
	SI 1 Location	SI 2 Pond Area	SI 3 Pond Drying	SI 4 Water Quality	SI 5 Shade	SI 6 Water Fowl	SI 7 Fish	SI 8 Ponds	SI 9 Terrestrial Habitat	SI 10 Macrophytes		
Onsite Ponds												
P1	1	0.1	0.5	0.33	1	1	0.33	0.82	0.67	0.9	0.55	Below Average
P2	1	0.92	1	0.67	1	0.67	0.01	0.82	0.33	0.4	0.70	Poor
Offsite Ponds												
P5	1	0.95	1	0.67	1	1	1	0.82	0.67	0.5	0.84	Excellent
P6	1	1	0.1	0.67	1	0.67	1	0.82	0.33	0.6	0.61	Average
P7	1	0.45	1	0.33	0.4	1	1	0.82	0.33	0.85	0.65	Average
P8	1	0.8	0.9	0.67	1	0.67	0.01	0.82	0.67	0.5	0.78	Poor

5.7.4 In summary, of the six ponds which could be assessed, pond P5 was found to be of 'excellent' potential to support Great Crested Newts, while ponds P6 and P7 were found to be 'average', pond P1 was 'below average' and ponds P2 and P8 were 'poor'. Due to the potentially suitable terrestrial habitat within the site and the favourable HSI scores, specific Great Crested Newt survey work was undertaken on ponds P1 and P2, as well as ponds P5 to P8, during May and June 2022, the results of which are summarised in Table 5.6 below.

Table 5.6. GCN survey results summary.

Pond Ref.	GCN Present	GCN Peak Count	GCN Population Size Class	Smooth Newt Peak Count	Palmate Newt Peak Count	Smooth/Palmate Newt Peak Count	Other amphibians	Fish
P1	N	-	-	0	0	0	x	x
P2	N	-	-	0	0	0	x	Yes
P5	N	-	-	0	0	0	x	x
P6	N	-	-	0	1	0	x	x
P7	N	-	-	0	0	0	x	x
P8	N	-	-	1	0	1	x	Yes
Summed across ponds		0	-					

5.7.5 Evaluation and Assessment of Likely Effects. No Great Crested Newts were recorded during the survey in any of the accessible ponds. As such, this species is considered to be reasonably likely to be absent from the site such that no specific safeguards are required with respect to this species.

5.8 Reptiles – reviewed to here

5.8.1 Legislation. All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 6455/2 for detailed provisions. All six reptile species are also S41 Priority Species. As such, all reptile species should be assessed as important ecological features.

5.8.2 Background Records. No specific records of reptiles from within the site were returned from the desktop study. Information returned from the LRC returned records of Grass Snake *Natrix natrix*, Slow Worm *Anguis fragilis*, Common Lizard *Zootoca vivipara* and Adder *Vipera berus* within 3km of the site, with the closest record for Grass Snake located 0.041km from site and dated from 1995.

5.8.3 Survey Results. Specific survey work for reptiles was undertaken at the site, the results of which are summarised in Table 5.7 below and illustrated on Plan 6455/ECO7.

Table 5.7. Reptile survey results summary.

Visit	Date	Common Lizard		Slow Worm		Grass Snake		Other Species
		Adult	Juv.	Adult	Juv.	Adult	Juv.	
1	11/05/2022	0	0	1	0	0	0	0
2	16/05/2022	0	0	0	1	0	0	0
3	09/06/2022	0	0	5	0	0	0	0
4	13/06/2022	0	0	6	0	0	0	0
5	21/06/2022	0	0	4	0	0	0	0
6	15/09/2022	0	0	1	0	0	1	0
7	21/09/2022	0	0	0	0	0	0	0
8	24/09/2022	0	0	1	0	0	0	0
9	28/09/2022	2	0	0	1	0	0	0
Peak Count		2		6		0		

5.8.4 Evaluation and Assessment of Likely Effects. A peak count of six Slow-worm *Anguis fragilis* was recorded during the survey work at the site, with the majority of animals recorded in the semi-improved grassland in the north-west of site, as well as at the margins of the eastern most arable field, along hedgerow H1 and hedgerow H3 (see Plan 6455/ECO4). A peak count of two Common Lizards *Zootoca vivipara* were also recorded adjacent to the arable field, along hedgerow H1. The area of suitable reptile habitat at the site measures c.6ha and therefore the peak count equates to a population of roughly one slow-worm per hectare, and less than one common lizard per hectare, which would be classified as a low population under the standard guidance²⁵. As such, it is currently considered that the population of reptiles supported by the study area is of importance at the local level only.

5.8.5 Currently, some areas of suitable reptile habitat are to be retained under the proposals and subject to protection of this habitat during construction (see Chapter 6 below) it is considered likely that the local conservation status of reptiles will be maintained post-development, and to ensure that individual reptiles are protected during construction works safeguards are recommended in section 6 below.

²⁵ Herpetofauna Groups of Britain and Ireland (1998) 'Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards'

5.9 Birds

- 5.9.1 Legislation.** All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 6455/2 for detailed provisions).
- 5.9.2 Conservation Status.** The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status²⁶. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.
- 5.9.3 Background Records.** Information from the data search included records for several bird species in the vicinity of the site, including the Red Listed species Skylark *Alauda arvensis*, House Sparrow *Passer domesticus*, Tree Sparrow *Passer montanus* and Song Thrush *Turdus philomelos*, which are also all Priority Species. None of the records originate from within the site itself.
- 5.9.4 Survey Results.** Several species of bird were observed within the site during the Phase 1 survey including the Amber Listed species Song Thrush *Turdus philomelos* (also a Priority Species), Sparrowhawk *Accipiter nisus*, with other species recorded including Robin *Erithacus rubecula*, Green Woodpecker *Picus viridis*, Carrion Crow *Corvus corone* and Woodpigeon *Columba palumbus*.
- 5.9.5** The site provides a number of opportunities for breeding and nesting birds, including in particular the woodland, treelines / hedgerows and dense scrub / Bramble. The arable habitat additionally has the potential to support species such as Skylark *Alauda arvensis* (Red Listed Species). Accordingly, specific breeding bird survey work was undertaken in May and June 2022, to record the presence/absence of breeding birds using the site, with the full results of these surveys provided at Appendix 6455/5. In summary, several species of bird were observed within the site during the breeding bird surveys including the Red List species: Herring gull *Larus argentatus* (noted flying over site), Skylark *Alauda arvensis* (noted in adjacent farmland), Starling *Sturnus vulgaris* (associated with adjacent housing), House sparrow *Passer domesticus*, Greenfinch *Chloris chloris* and Yellowhammer *Emberiza citrinella*. Several Amber List species were also noted including: Mallard *Anas platyrhynchos*, Swift *Apus apus* (noted flying over site), Stock dove *Columba oenas*, Woodpigeon *Columba palumbus*, Moorhen *Gallinula chloropus*, Sparrowhawk *Accipiter risus* (noted flying over site), Tawny owl *Strix aluco*, Rook *Corvus frugilegus* (noted flying over site), House martin *Delichon urbicum* (regularly flying over site, perhaps nesting on nearby houses), Whitethroat *Curruca communis*, Wren *Troglodytes troglodytes*, Song thrush *Turdus philomelos*, Dunnock *Prunella modularis*, Bullfinch *Pyrrhula pyrrhula*.
- 5.9.6** The full results of the survey work with respect to breeding birds are provided at Appendix 6455/5.

²⁶ Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) 'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man' British Birds 108, pp.708-746

- 5.9.7 **Evaluation.** Most of the birds recorded at the site are not listed as having any special conservation status, although several species are included on the Red List, and overall the site supports a relatively diverse breeding bird assemblage. The majority of the breeding bird activity was noted within the woodland areas which are not being affected by the proposals, whilst all other breeding bird activity noted was associated with site boundary features, which are mostly being retained under the current proposals. As such, the majority of breeding birds will remain unaffected by the proposals, with opportunities maintained under the proposed development, whilst proposed enhancements to woodland compartment 1b will increase the value of the woodland for breeding birds.
- 5.9.8 It is recognised that by developing within the arable fields on site, this will directly remove opportunities for Yellowhammer (Red List Species), which will have an impact that cannot be compensated for under the current proposals. However, numerous suitable opportunities are present in the surrounding arable landscape for this species, such that the effects of the proposals on the local conservation status of Yellowhammer is minimal. Having said this, should Horsham District Council operate strategic mitigation scheme for farmland birds within the local area, the developer would be pleased to make a financial contribution.
- 5.9.9 Although the majority of suitable vegetation is protected and retained, a small number of hedgerows will be removed and as such a number of safeguards in respect of nesting birds are proposed, as detailed in Chapter 6 below.

5.10 Invertebrates

- 5.10.1 **Legislation.** A number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 6455/2 for detailed provisions. A number of invertebrates are also S41 Priority Species. Where such species are present, they should be assessed as important ecological features.
- 5.10.2 **Background Records.** No specific records of invertebrates were returned from within or adjacent to the site. A number of records of Stag Beetles *Lucanus cervus* (Priority Species) were returned within information received from LRC, with the closest located approximately 1.65km from the site.
- 5.10.3 **Survey Results and Evaluation.** No evidence for the presence of any protected, rare or notable invertebrate species was recorded within the site. The arable and improved grassland fields which form a large part of the site are likely to support only a limited diversity of invertebrates, albeit the woodland habitats on site likely have some elevated interest at the local level. Those habitats which are likely of elevated value for invertebrates, including the woodland and treelines / hedgerows, are recommended for retention under the proposals, and it is therefore considered unlikely that future development will result in significant harm to any protected, rare or notable invertebrate populations.

5.11 Summary

- 5.11.1 On the basis of the above, a summary of the evaluation of fauna is provided below:

Table 5.8. Evaluation summary of fauna forming important ecological features.

Species / Group	Supported by or associated with the site	Level of Importance
Bats – Roosting	Potential habitat in the form of trees	Local
Bats – Foraging / Commuting	Confirmed presence on site	Local
Dormouse	Confirmed presence on site	Local
Other Mammals	Potential habitat for common mammals and Hedgehog (Priority Species) present	Site
Great Crested Newt	Not recorded within 250m of the site	Negligible
Reptiles	Confirmed presence on site	Local
Birds	Confirmed presence on site including Yellowhammer	Local
Invertebrates	Woodland likely to support a moderate assemblage of species	Local

7 Mitigation Measures and Biodiversity Net Gains

7.1 Mitigation

- 7.1.1 Based on the habitats, ecological features and associated fauna identified within / adjacent to the site, it is proposed that the following mitigation measures (**MM1 – 14**) are implemented under the proposals. Further, detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2019).

Hedgerows and Trees

- 7.1.2 **MM1 – Hedgerow and Tree Protection.** All hedgerows and trees to be retained within the proposed development shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees / hedgerows.

Woodland

- 7.1.3 **MM2 – Woodland Protection.** In addition to the protection measures described under MM1 above, the masterplan will be sensitively designed in order to minimise any potential adverse impacts on the retained woodland, inclusive of a suitable buffer zone to the development footprint. In the case of this site, this buffer zone should be 15m from those woodland compartments identified as comprising ancient woodland (C2), measured from the nearest trunks of the trees.
- 7.1.4 Development proposals should prioritise the retention of compartments C2, and mitigation measures should be considered to control public access into these compartments. Ash trees within these compartments should also be monitored for dieback disease. Future management of C2 should be based on minimal intervention.

Watercourses

- 7.1.5 **MM3 – Pollution Prevention.** In order to safeguard the onsite ponds against any potential run-off or pollution events during construction, the following safeguards will be implemented:
- Storage areas for chemicals, fuels, etc. will be sited well away from the watercourse (minimum 10m), and stored on an impervious base within an oil-tight bund with no drainage outlet. Spill kits with sand, earth or commercial products approved for the stored materials shall be kept close to storage areas for use in case of spillages;
 - Where possible, and with prior agreement of the sewage undertaker, silty water should be disposed of to the foul sewer or via another suitable form of disposal, e.g. tanker off-site;
 - Water washing of vehicles, particularly those carrying fresh concrete and cement, mixing plant, etc. will be carried out in a contained area as far from the watercourse as practicable (minimum 10m), to avoid contamination; and
 - Refuelling of plant will take place in a designated area, on an impermeable surface, away from the watercourse (minimum 10m).

- 7.1.6 Post-development, the drainage system for the development will ensure the onsite ponds are not subject to adverse changes in surface water run-off or quality. On the contrary, the removal of agricultural run-off from the land will likely be beneficial in terms of water quality.

Bats

- 7.1.7 **MM4 – Update Survey.** Should any considerable time (e.g. >2 years) elapse between the survey work detailed above and any development works, a further survey of the buildings with potential to support roosting bats should be undertaken prior to the commencement of works to confirm the continued absence of bats.
- 7.1.8 **MM5 – Felling of Trees Supporting Bat Roosting Potential.** Trees T1-T7 have been identified as providing low potential for roosting bats. If possible, these trees should be retained under the proposals, although should a need for works to these trees be identified at a later stage (e.g. for health and safety purposes), felling of these trees should be undertaken under an ecological watching brief, and will be carried out using the ‘soft-felling’ technique, whereby sections of the tree will be cut and lowered to the ground, followed by leaving the felled sections on the ground for a period of at least 24 hours to allow any bats, should these be present, to escape.
- 7.1.9 The majority of trees within TL1-TL3, as well as some of those within the various woodland compartments, have been identified as providing moderate-high potential for roosting bats. If possible, these trees should be retained under the proposals, although should a need for works to these trees be identified at a later stage (e.g. for health and safety purposes) it is recommended a suitably qualified ecologist is consulted to advise on any further survey requirements and mitigation measures. Such measures may include climbing inspections to investigate potential roosting features and soft felling of trees under an ecological watching brief.
- 7.1.10 **MM6 – Sensitive Lighting.** Light-spill onto retained and newly created habitat, in particular the retained hedgerows, tree lines and scrub (especially along the south- western boundary), will be minimised in accordance with good practice guidance²⁷ to reduce potential impacts on light-sensitive bats (and other nocturnal fauna). This may be achieved through the implementation of a sensitively designed lighting strategy, which should specifically include the proposed lighting of the football pitch within the west of the site, with consideration given to the following key factors:
- **Light exclusion zones** – ideally no lighting should be used in areas likely to be used by bats. Light exclusion zones or ‘dark buffers’ may be used to provide interconnected areas free of artificial illumination to allow bats to move around the site;
 - **Appropriate luminaire specifications** – consideration should be given to the type of luminaires used, in particular luminaries should lack UV elements and metal halide and fluorescent sources should be avoided in preference for LED luminaries. A warm white spectrum (ideally <2,700K) should be adopted to reduce the blue light component;

²⁷ Bat Conservation Trust and Institute of Lighting Professionals (2018) ‘Guidance Note 08/18: Bats and artificial lighting in the UK’; Stone, E.L. (2013) ‘Bats and lighting: Overview of current evidence and mitigation guidance.’; ILP (2011) ‘Guidance notes for the reduction of obtrusive light’ Institution of Lighting Professionals, GN01:2011.

7.1.12



Dormouse

- 7.1.13 **MM9 – Dormouse Licensing.** Due to the proposed development within site, it will be necessary to remove sections of hedgerow, which has the potential to disturb, injure or kill any Dormice present at the time of works. To avoid an offence under the relevant legislation, it will be necessary for the vegetation clearance to be carried out under a European Protected Species (EPS) development licence, obtained from Natural England. When determining whether to grant a licence, Natural England will need to give consideration to the three derogation tests under Article 16 of the Habitats Directive (1992), namely whether the development is for imperative reasons of overriding public interest, no satisfactory alternative, and maintenance of favourable conservation status.
- 7.1.14 The need for the development is set out by the planning documents associated with the application. In summary, the scheme will meet a local need for new housing development. To enable the scheme, it is necessary to create access points into the site, and therefore the vegetation loss could not be avoided. However, impacts have been minimised by targeting hedgerows, and retaining all trees and woodland at the site boundaries.
- 7.1.15 In terms of maintenance of favourable conservation status, this would be achieved through implementation of safeguarding measures and provision of replacement habitat opportunities within the proposed development as set out below.
- 7.1.16 On this basis, it is therefore considered that, subject to full planning permission being granted and confirmation of the detailed mitigation measures in line with those set out below, there is no reason to suggest that any associated licence would be unlikely to be granted by Natural England.
- 7.1.17 **MM10 – Safeguarding measures during vegetation clearance.** Given the known presence of Dormice in the area surrounding the site, in order to minimise the risk to Dormice during vegetation clearance works, a number of precautionary safeguarding measures will need to be implemented (under licence). This will include sensitive timing of works, involving clearance outside of the peak hibernation or breeding periods, or as a two-stage process (removal of above ground vegetation during the winter months, followed by removal of stumps and ground works the following late spring once Dormice have emerged from hibernation). Works will also be carried out under ecological supervision, with progressive clearance of vegetation by hand, and will be preceded by check surveys of habitats for nests. Should any further survey work identify the presence of Dormice on site, these measures will need to be completed under an EPS licence.
- 7.1.18 **MM11 – Replacement habitat provision.** To compensate for the losses of habitat under the proposals, new tree and shrub planting will be provided at the margins of the site, whilst existing hedgerows will be infilled and brought under management to enhance these features for small mammals.

7.1.19 In addition, and notably, woodland compartment 1b can be enhanced for Dormice through the creation of greater structural diversity. Compartment 1b currently features very little understorey, and as such provides limited connectivity for Dormice, with few associated opportunities for foraging. As such, there is a good opportunity to enhance this area of woodland for the benefit of Dormice, and deliver notable gains for this species.

7.1.20 Nest boxes will also be provided in retained habitat areas to increase breeding opportunities for this species.

Hedgehogs

7.1.21 **MM12 – Hedgehog Safeguards.** In order to safeguard Hedgehogs and other small mammals should they enter the site during construction works, the following measures will be implemented:

- A watching brief should be maintained for Hedgehog and other small mammals throughout any clearance works;
- Any piles of material already present on site, particularly vegetation/leaves, etc. and any areas of dense scrub or hedgerows, shall be dismantled/removed by hand and checked for Hedgehog prior to the use of any machinery/disposal;
- Any material to be disposed of by burning, particularly waste from vegetation clearance and tree works, should not be left piled on site for more than 24 hours in order to minimise the risk of Hedgehogs occupying the pile. If this cannot be avoided, material should be stored within a container such as a skip to prevent animals from gaining access. Any material which has been stored on the ground overnight should be moved prior to burning to allow a thorough check for any animals which may have been occupying the pile;
- In the event that an injured Hedgehog is found, the animal should be wrapped carefully in a towel, the British Hedgehog Preservation Society (BHPS) phoned (01584 890 801) and the Hedgehog taken to a local vet immediately;

Reptiles

7.1.22 **MM13 – Destructive Search.** The site contains suitable reptile habitat, with their presence confirmed by specific survey work, albeit this is restricted to site margins. Much of the suitable reptile habitat will be retained and safeguarded (with areas of suitable grassland present within the Root Protection Areas of retained trees) but it may be necessary to remove some areas in order to facilitate construction. Accordingly, as a precautionary measure to minimise the risk of harm to reptiles, a destructive search is proposed of such areas. The destructive search will involve cutting the grassland within the development footprint to a short height (~15cm) so as to encourage reptiles to disperse to suitable areas of retained/nearby habitat, whilst also allowing for a fingertip search of the area. This exercise should be carried out under the supervision of a competent ecologist during the active reptile season where practicable (generally March/April to September/October, depending on prevailing weather). Any potential refuge features, e.g. piles of rubble, heavy logs, brash piles, will be fingertip-searched by an ecologist prior to being carefully disassembled. Any reptiles encountered during the destructive search will be carefully rescued by the supervising ecologist and relocated to suitable nearby habitat. Should the survey work identify reptiles at the site, further mitigation measures may be required, such as a translocation exercise in order to remove reptiles from the development footprint prior to construction.

Nesting Birds

- 7.1.23 **MM13 – Timing of Works.** To avoid a potential offence under the relevant legislation, no clearance of suitable vegetation should be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable, any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified would then need to be cordoned off (minimum 5m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance.

Invasive Species

- 7.1.24 **MM14 – Invasive Species Safeguards.** New Zealand Pygmyweed, which is listed on Schedule 9 Part II of the Wildlife and Countryside Act 1981, was recorded to likely be present within pond P1 at the site. It is an offence to cause to grow in the wild, any plant listed on the schedule. As such, all relevant precautions should be taken when carrying out actions that could potentially spread these plants. The government has set out guidance on what can be considered ‘causing to grow in the wild’ within a response to the Schedule 9 review which states:

“We would expect that where plants listed in Schedule 9 are grown in private gardens, amenity areas etc., reasonable measures will be taken to confine them to the cultivated area so as to prevent their spreading to the wider environment and beyond the landowner’s control. It is our view that any failure to do so, which in turn results in the plant spreading to the wild, could be considered as ‘causing to grow in the wild’ and as such would constitute an offence...Additionally, negligent or reckless behaviour such as inappropriate disposal of garden waste, where this results in Schedule 9 species becoming established in the wild would also constitute an offence.”

- 7.1.25 In order to prevent accidental colonisation of New Zealand Pygmyweed at any habitats within or offsite, should any material be removed from the pond at the site, such material will be disposed of appropriately. Such measures will include containing the material within a sealed bag or container, until such time as the material is removed from site for disposal. Any tools / equipment used during pond excavation works will adhere to standard government ‘Check, Clean, Dry’ biosecurity measures.

7.2 Biodiversity Net Gains

- 7.2.1 The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities. The recommendations and enhancements summarised below are considered appropriate given the context of the site and the scale and nature of the proposals. Through implementation of the following ecological enhancements (**EE1 – EE8**), the opportunity exists for the proposals to deliver a number of biodiversity net gains at the site.

Habitat Creation

- 7.2.2 **EE1 – New Tree, Shrub and Hedgerow Planting.** It is recommended that where practicable, new planting within the site be comprised of native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within

the planting could include native trees such as Oak, Ash, Birch *Betula pendula* and Field Maple, whilst native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Blackthorn, Hawthorn, Crab Apple *Malus sylvestris*, Hazel *Corylus avellana* and Elder. Where non-native species are proposed, these should include species of value to wildlife, such as varieties listed on the RHS' 'Plants for Pollinators' database, providing a nectar source for bees and other pollinating insects.

7.2.3 New planting at the site can readily combine with existing ecological features, such as the woodland, treelines and hedgerows, which will improve connectivity at the site and offer opportunities for a range of wildlife.

7.2.4 **EE2 – Wildflower Grassland.** It is recommended that areas of wildflower grassland are created within the site such that, in combination with new native landscape planting, opportunities for biodiversity will be maximised under the proposals. Consideration should be given to the laying of wildflower turfs, comprising locally appropriate native species, to establish wildflower grassland. This would ensure rapid establishment of these habitats, and reduce the timeframe for delivering the range of ecological benefits that are proposed. Alternatively retained grassland can be over-seeded, and suitable management implemented, in order to increase the ecological value.

7.2.5 **EE3 – Wetland Features.** The opportunity exists under the proposals to create new wetland habitats that will provide a range of opportunities for wildlife. It is recommended that the potential to create ponds or other wetland habitats such as Sustainable Drainage Systems (SuDS) under the proposals be given due consideration. Creation of such habitats would provide opportunities for a range of wildlife while also helping to attenuate surface water run-off.

Bats

7.2.6 **EE4 - Bat Boxes.** It is recommended that a number of bat boxes be incorporated within the proposed development. The provision of bat boxes will provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle, a national Priority Species. So as to maximise their potential use, the bat boxes should ideally be situated on suitable retained trees, erected as high up as possible and sited in sheltered wind-free areas that are exposed to the sun for part of the day, facing a south-east, south or south-westerly direction. In addition, where architectural design allows, a number of integrated bat boxes / roost features should be incorporated into a proportion of the new build. The precise number and locations of boxes / roost features should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

Hedgehog

7.2.7 **EE5 – Hedgehog Nest Domes.** It is recommended that Hedgehog nest domes be installed within sheltered areas, such as the existing or newly created hedgerows / treelines and scrub, to provide suitable nesting and hibernation sites for this species. The Hedgehog nest domes should be positioned out of direct sunlight, in areas of dense vegetation.

Birds

7.2.8 **EE6 - Bird Boxes.** It is recommended that a number of bird nesting boxes be incorporated within the proposed development, thereby increasing nesting opportunities for birds at the site. Ideally, the bird boxes will have greater potential for use if sited on suitable, retained trees, situated as high up as possible. The precise number and locations of boxes should be

determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

Invertebrates

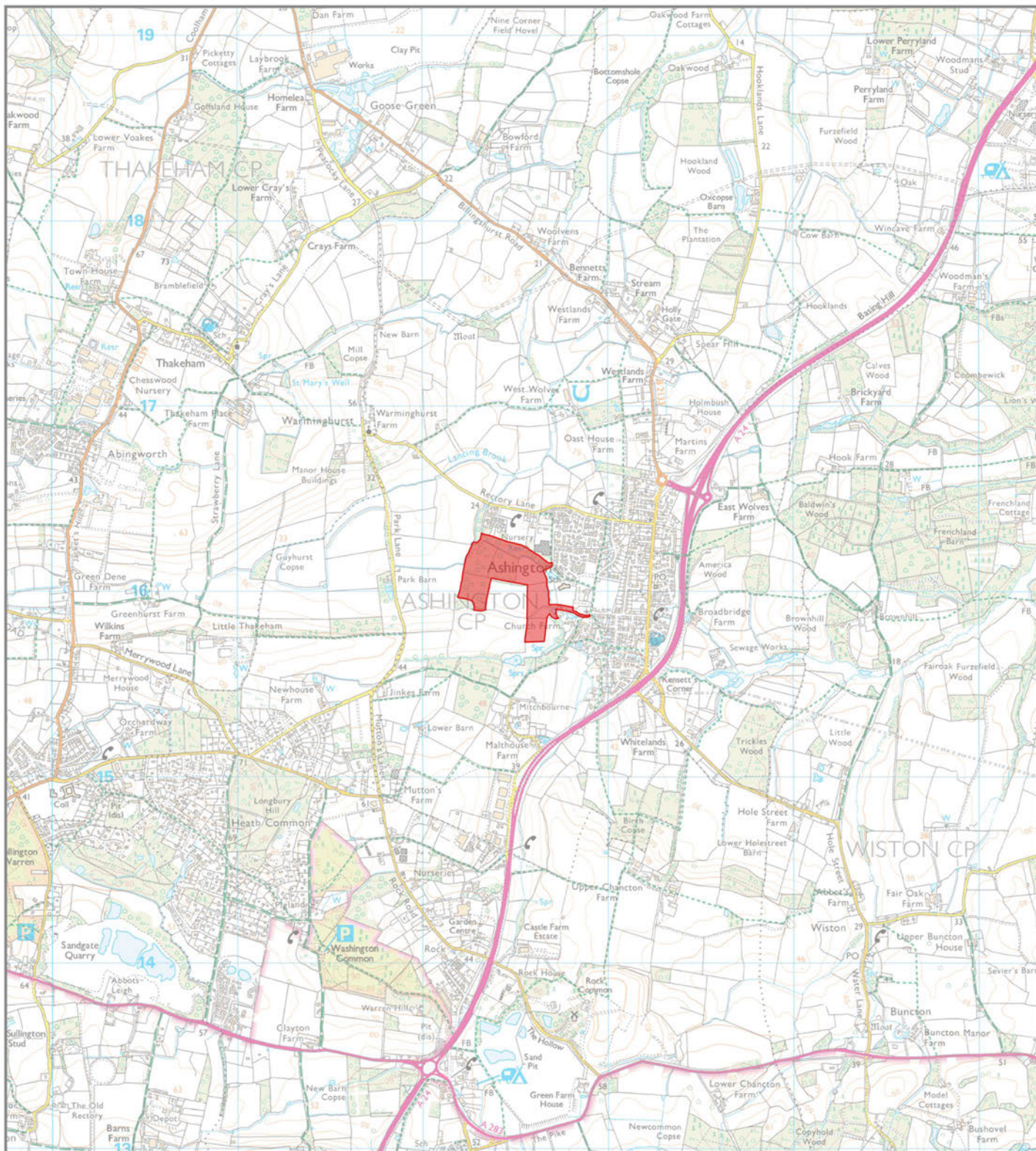
- 7.2.9 **EE7 – Habitat Piles.** A proportion of any deadwood arising from vegetation clearance works should be retained within the site in a number of wood piles located within areas of new planting, new wetland habitats or areas of wildflower grassland in order to provide potential habitat opportunities for invertebrate species, which in turn could provide a prey source for a range of other wildlife. In addition, the provision and management of new native landscape planting will likely provide additional opportunities for invertebrates at the site in the long term.
- 7.2.10 **EE8 – Bee Bricks.** It is recommended that a number of bee bricks be incorporated within the proposed development thereby increasing nesting opportunities for declining populations of non-swarming solitary bee populations. Ideally, bee bricks should be located within suitable south-facing walls (where architectural design allows), located at least 1m off the ground. The bricks should be unobstructed by vegetation, though within close vicinity of nectar and pollen sources.

8 Conclusions

- 8.1 Aspect Ecology has carried out an Ecological Appraisal of the proposed development, based on the results of a desktop study, Phase 1 habitat survey and a number of detailed protected species surveys.
- 8.2 The available information confirms that no statutory or non-statutory nature conservation designations are present within or adjacent to the site, and none of the designations within the surrounding area are likely to be adversely affected by the proposals.
- 8.3 The Phase 1 habitat survey has established that the site is dominated by habitats not considered to be of ecological importance, whilst the proposals have sought to retain those features identified to be of value. Where it has not been practicable to avoid loss of habitats, new habitat creation has been proposed to offset losses, in conjunction with the landscape proposals.
- 8.4 The habitats within the site support several protected species, including species protected under both national and European legislation. Accordingly, a number of mitigation measures have been proposed to minimise the risk of harm to protected species, with compensatory measures proposed, where appropriate, in order to maintain the conservation status of local populations.
- 8.5 In conclusion, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm to biodiversity. On the contrary, the opportunity exists to provide a number of biodiversity net gains as part of the proposals.

Plan 6455/ECO1:

Site Location



Key:

Site Location

aspect ecology

Aspect Ecology Limited West Court Hardwick Business Park
Noral Way Banbury Oxfordshire OX16 2AF
01295 279721 info@aspect.ecology.com www.aspect.ecology.com

Land West of Ashington,
Pulborough
Site Location

6455/ECO1

B/BG

December 2022

PROJECT

TITLE

DRAWING NO.

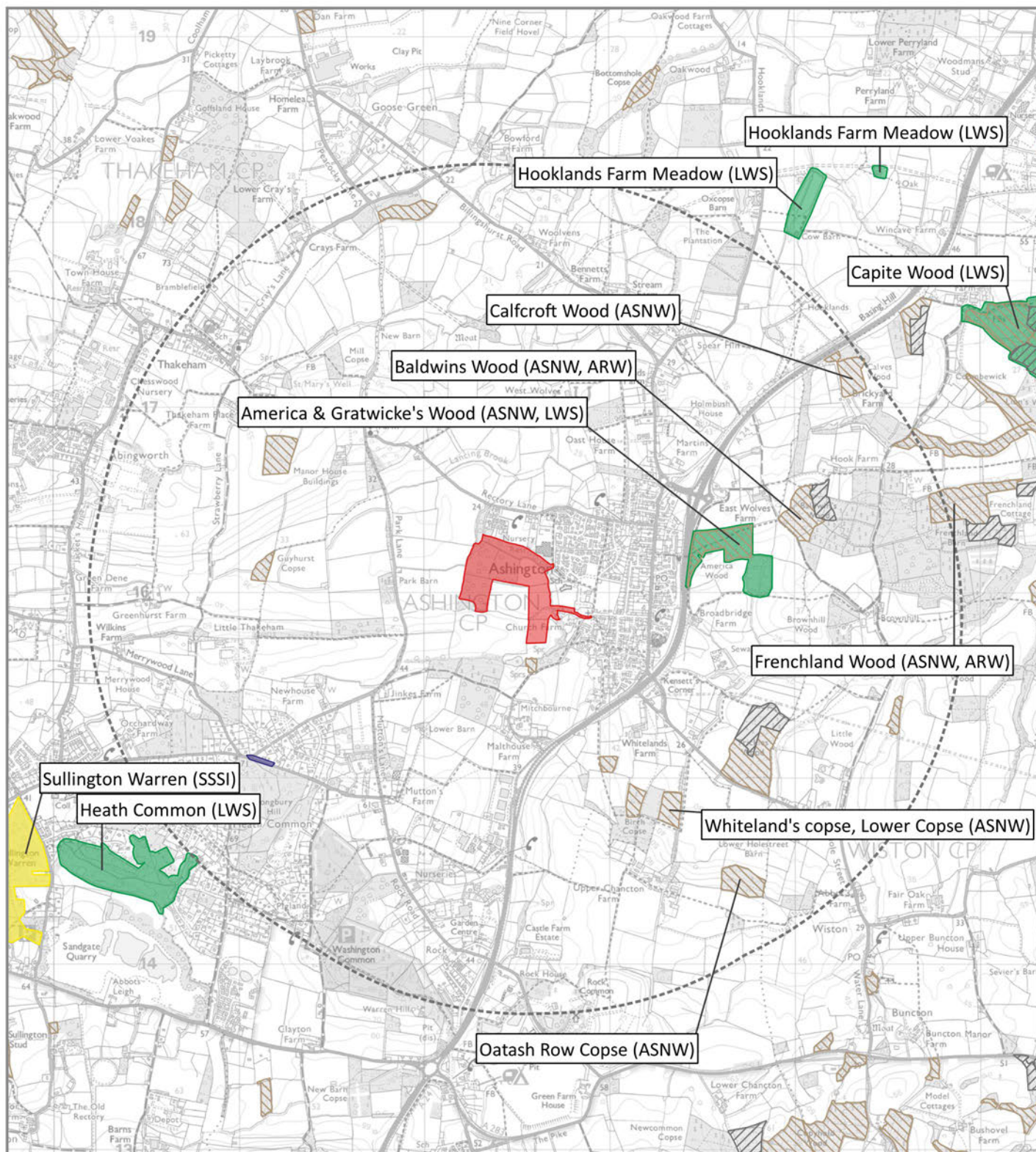
REV

DATE



Plan 6455/ECO2:

Ecological Designations



Key:

- Site Boundary
- 2km Survey Area
- Ancient Replanted Woodland
- Ancient Semi Natural Woodland
- Sites of Special Scientific Interest
- Designated Road Verge
- Local Wildlife Site

aspect ecology

Aspect Ecology Limited West Court Hardwick Business Park
Noral Way Banbury Oxfordshire OX16 2AF
01295 279721 info@aspect.ecology.com www.aspect.ecology.com

Land West of Ashington,
Pulborough
Ecological Designations

6455/ECO2

C/BG

December 2022

PROJECT

TITLE

DRAWING NO.

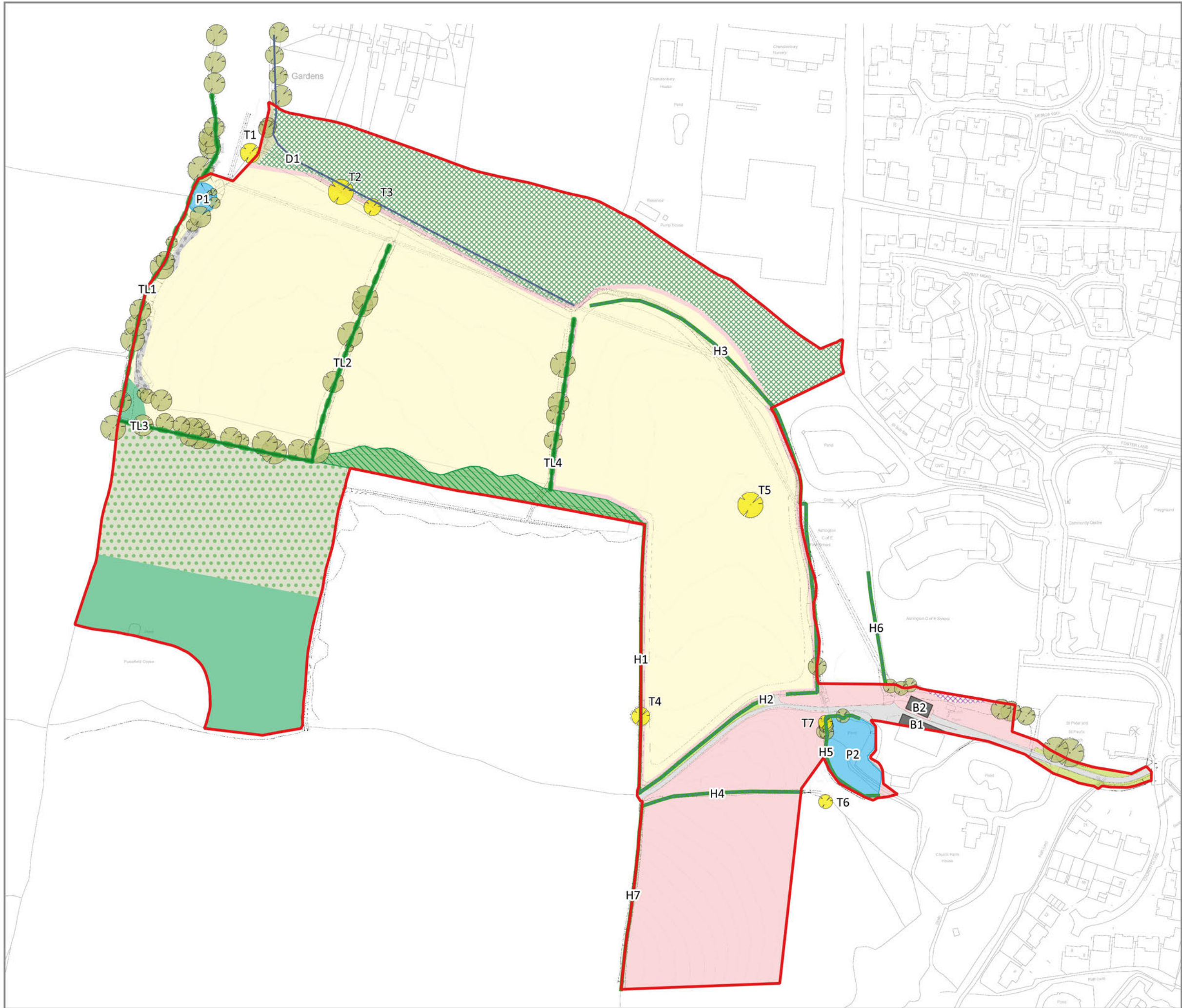
REV

DATE



Plan 6455/ECO3:

Habitats and Ecological Features



- Key:
- Site Boundary
 - Amenity Grassland
 - Arable
 - Bramble
 - Building
 - Dense Scrub
 - Hardstanding
 - Pond
 - Semi-improved Grassland
 - Spoil
 - Woodland Compartment 1a – Indicative Area of Young Tree / Scrub Cover
 - Woodland Compartment 1b
 - Woodland Compartment 2
 - Improved Grassland
 - Ditch
 - Dry Ditch
 - Hedgerow
 - Tree Line
 - Low Bat Roost Potential Tree
 - Tree



Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Land West of Ashington,
Pulborough
Habitats and Ecological Features

PROJECT

TITLE

6455/ECO3

DRAWING NO.

D/BG

REV

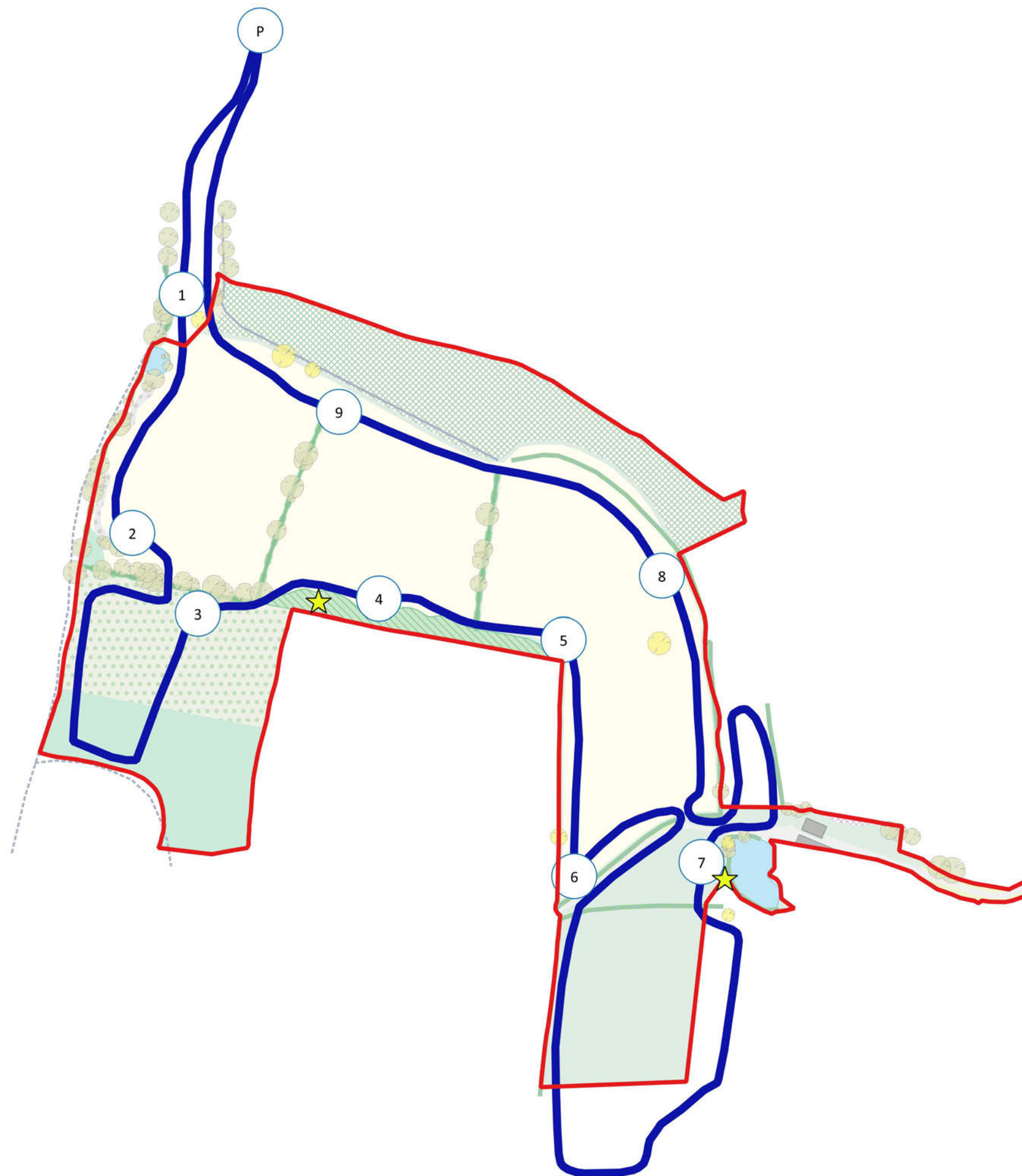
December 2022

DATE



Plan 6455/ECO4:

Bat Activity Survey Results



Key:

Site Boundary

Static Location (Size Approximately Proportional to Total Call Registrations)

Bat Activity (Transect Survey)

Between Listening Points:

High

Moderate

Low

Negligible

At Listening Points:

High

Moderate

Low

Negligible

Bat Activity Level Key:

High: >1 Passes per minute

Moderate: 0.51-1.0 Passes per minute

Low: 0.01-0.5 Passes per minute

Negligible: 0 Passes per minute

Note: Number of passes per minute based on the number of sound files produced by Anabat Scout.

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Land West of Ashington,
Pulborough
Bat Activity Survey Results

6455/ECO4



A/BG

December 2022

PROJECT

TITLE

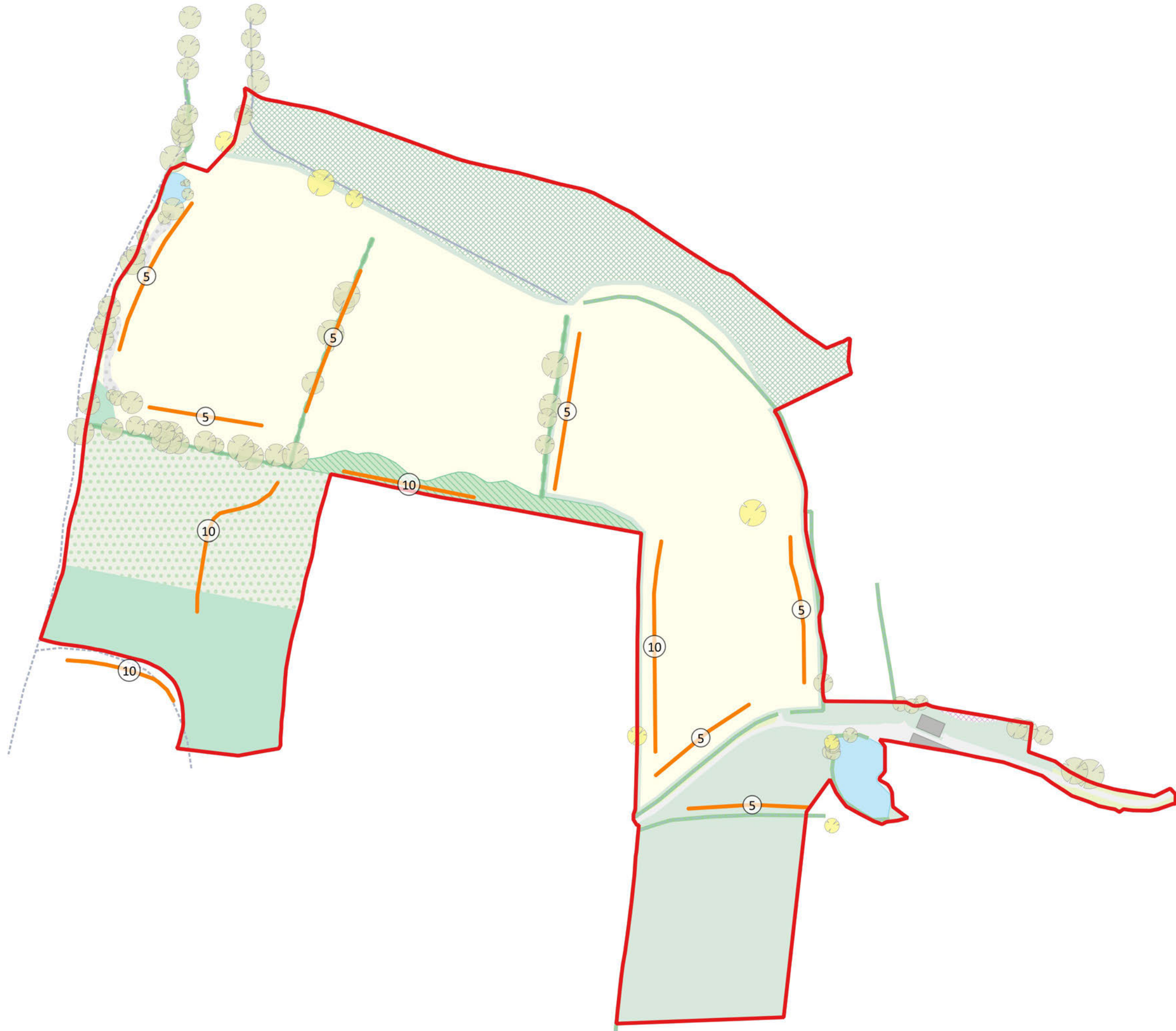
DRAWING NO.

REV

DATE

Plan 6455/ECO5:

Dormouse Survey Results



Key:

- Site Boundary
- Dormouse Tube Transect



Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Land West of Ashington,
Pulborough
Dormouse Survey Results

6455/EC05

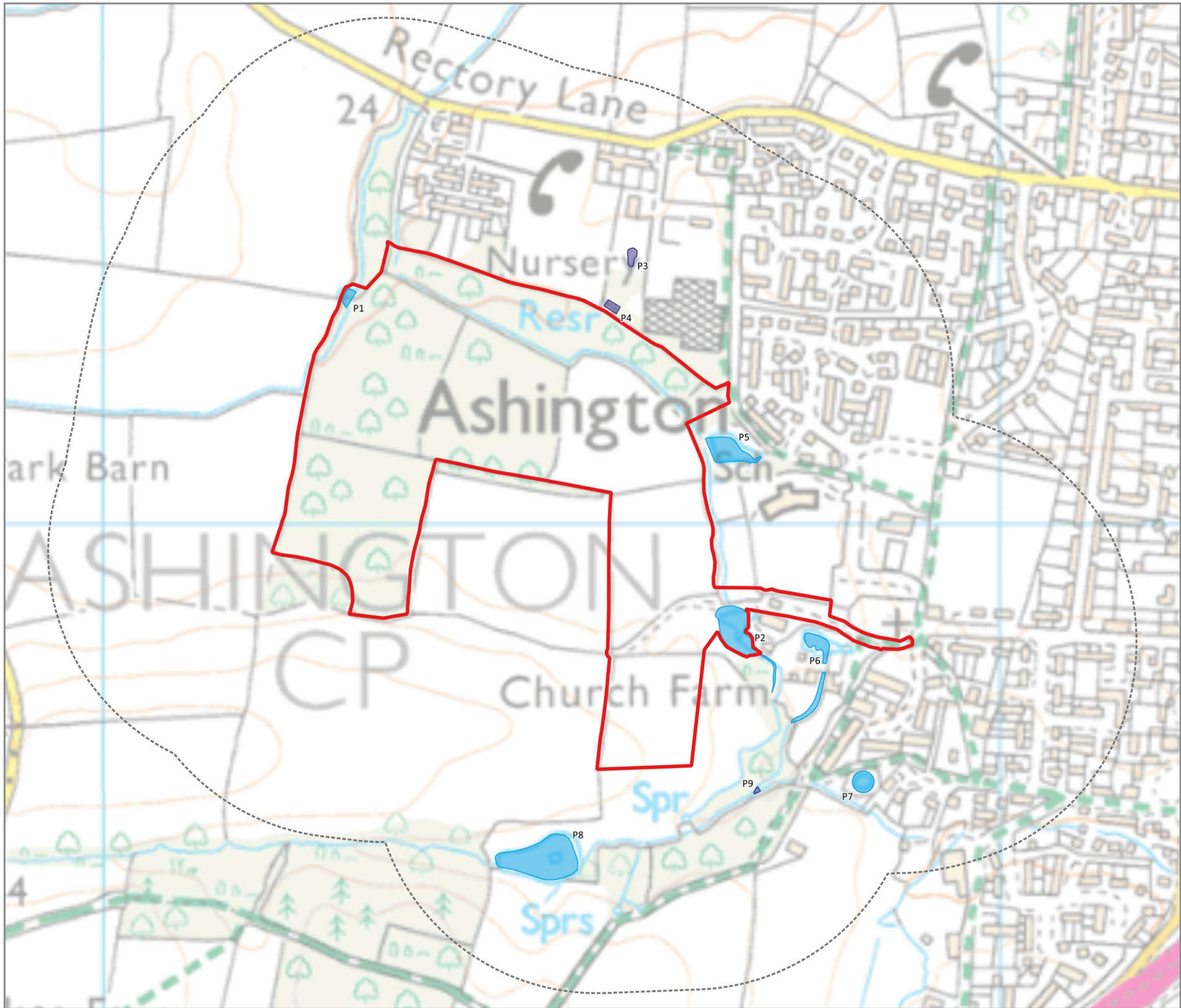


B/BG

December 2022

Plan 6455/ECO6:

Location of Waterbodies



- Key:
- Site Boundary
 - 250m Study Area
 - Pond Not Surveyed
 - Pond Surveyed

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Land West of Ashington,
Pulborough
Location of Waterbodies

PROJECT

TITLE

6455/ECO6

DRAWING
NO.

B/BG

REV

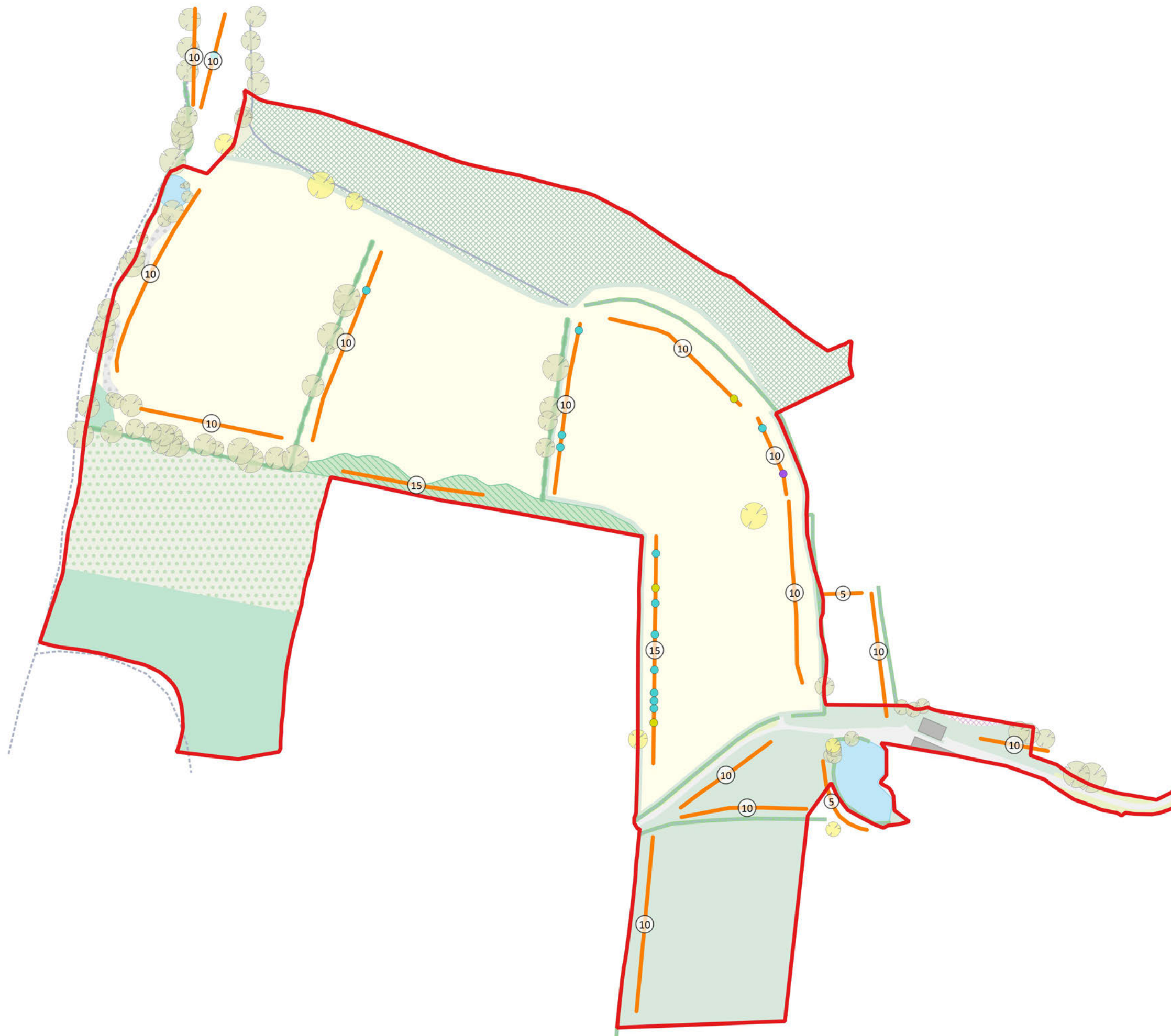
December 2022

DATE



Plan 6455/ECO7:

Reptile Survey Results



Key:

- Site Boundary
- Reptile Transect
- Location of Female Slow Worm
- Location of Male Slow Worm
- Location of Juvenile Slow Worm

Due to significant disruption including mowing and destruction of many of the mats, a total of only 62 mats were recorded as present within the most recent survey on 21/06/2022

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 279721 - info@aspect-ecology.com - www.aspect-ecology.com

Land West of Ashington,
Pulborough
Reptile Survey Results

6455/EC07



B/BG

December 2022

PROJECT
TITLE
DRAWING NO.
REV
DATE

Appendix 6455/1:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)¹.

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable"*.
3. Various characteristics contribute to the importance of ecological features, including:
 - Naturalness;
 - Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
 - Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
 - Endemic species or locally distinct sub-populations of a species;
 - Habitat diversity;
 - Habitat connectivity and/or synergistic associations;
 - Habitats and species in decline;
 - Rich assemblages of plants and animals;
 - Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
 - Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
 - Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.
4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

¹ CIEEM (2018) 'Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

Assigning Level of Importance

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:
 - International (European);
 - National;
 - Regional;
 - County;
 - District;
 - Local (e.g. Parish or Neighbourhood);
 - Site (not of importance beyond the immediate context of the site).
7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.
8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.
9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.
12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.
13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.
15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.
16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.
17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 6455/2:

Legislation Summary

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).
2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself¹. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.
3. In summary, the key pieces of legislation relating to nature conservation in the UK are:
 - Wildlife and Countryside Act 1981 (as amended)
 - Protection of Badgers Act 1992
 - Hedgerows Regulations 1997
 - Countryside and Rights of Way (CROW) Act for England and Wales 2000
 - Natural Environment and Rural Communities Act 2006
 - Conservation of Habitats and Species Regulations 2017
4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.
5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.
6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).
7. Under Section 1(1) of the Act, all wild birds are protected such that it is an offence to intentionally:
 - Kill, injure or take any wild bird;
 - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
 - Take or destroy an egg of any wild bird.

* The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.
8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:
 - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
 - Disturb dependent young of such a bird.

¹ <http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/>

9. Under Section 9(1) of the Act, it is an offence to:
 - Intentionally kill, injure or take any wild animal included in Schedule 5.
10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:
 - Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
 - Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.
11. Under Section 13(1) it is an offence:
 - To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
 - Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.
12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.
13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
 - To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

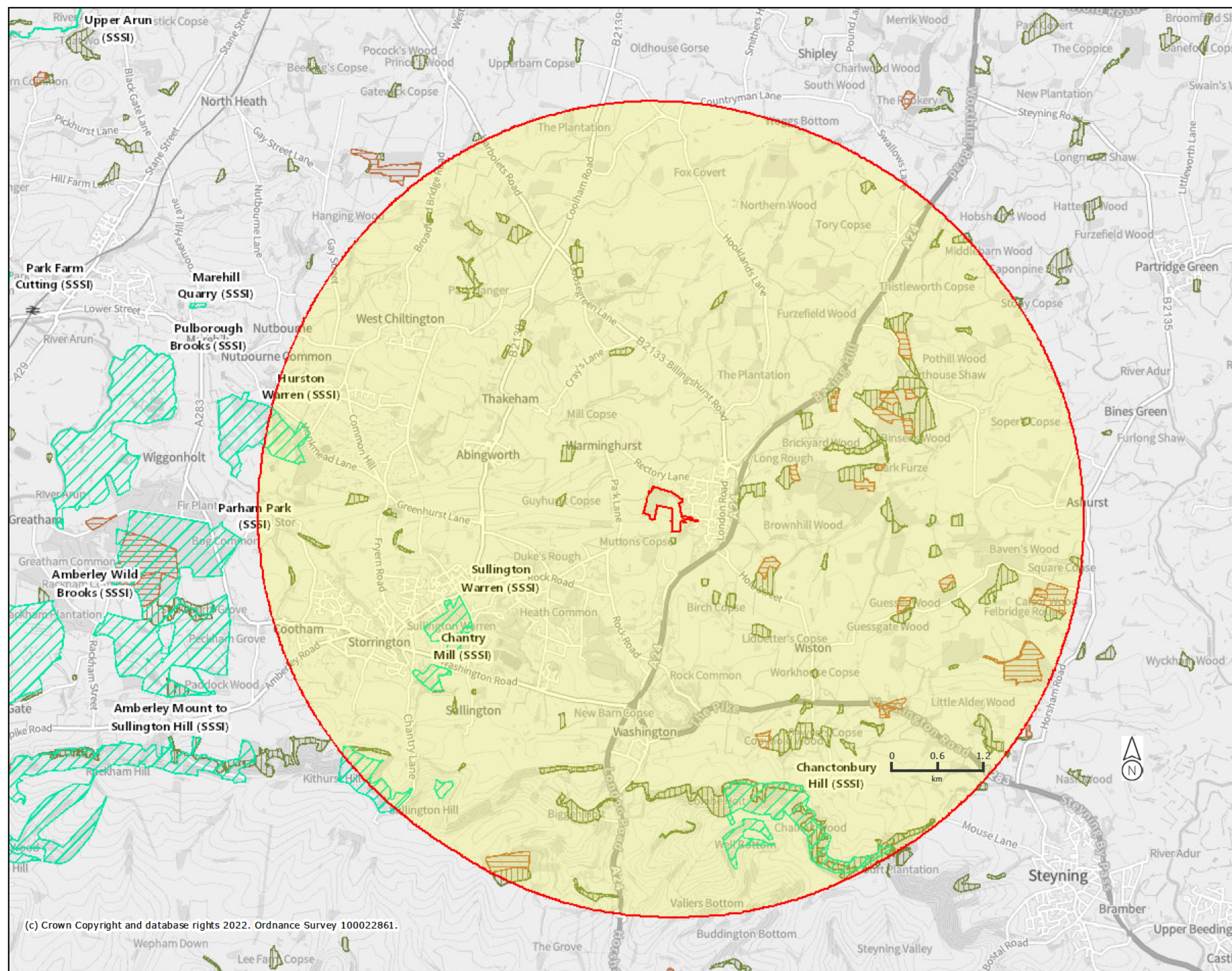
A sett is defined as “any structure or place which displays signs indicating current use by a Badger”. Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way
14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.
15. **Hedgerows Regulations 1997.** ‘Important’ hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify ‘important’ hedgerows for wildlife, landscape or historical reasons.
16. **Countryside and Rights of Way (CROW) Act for England and Wales 2000.** The CROW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).
18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.
19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)² classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.
20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:
 - Deliberately capture, injure or kill any wild animal of a European Protected Species;
 - Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
 - Deliberately take or destroy the eggs of such an animal;
 - Damage or destroy a breeding site or resting place of such an animal.
21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.
22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

² Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Appendix 6455/3:

Desktop Study Data



Legend

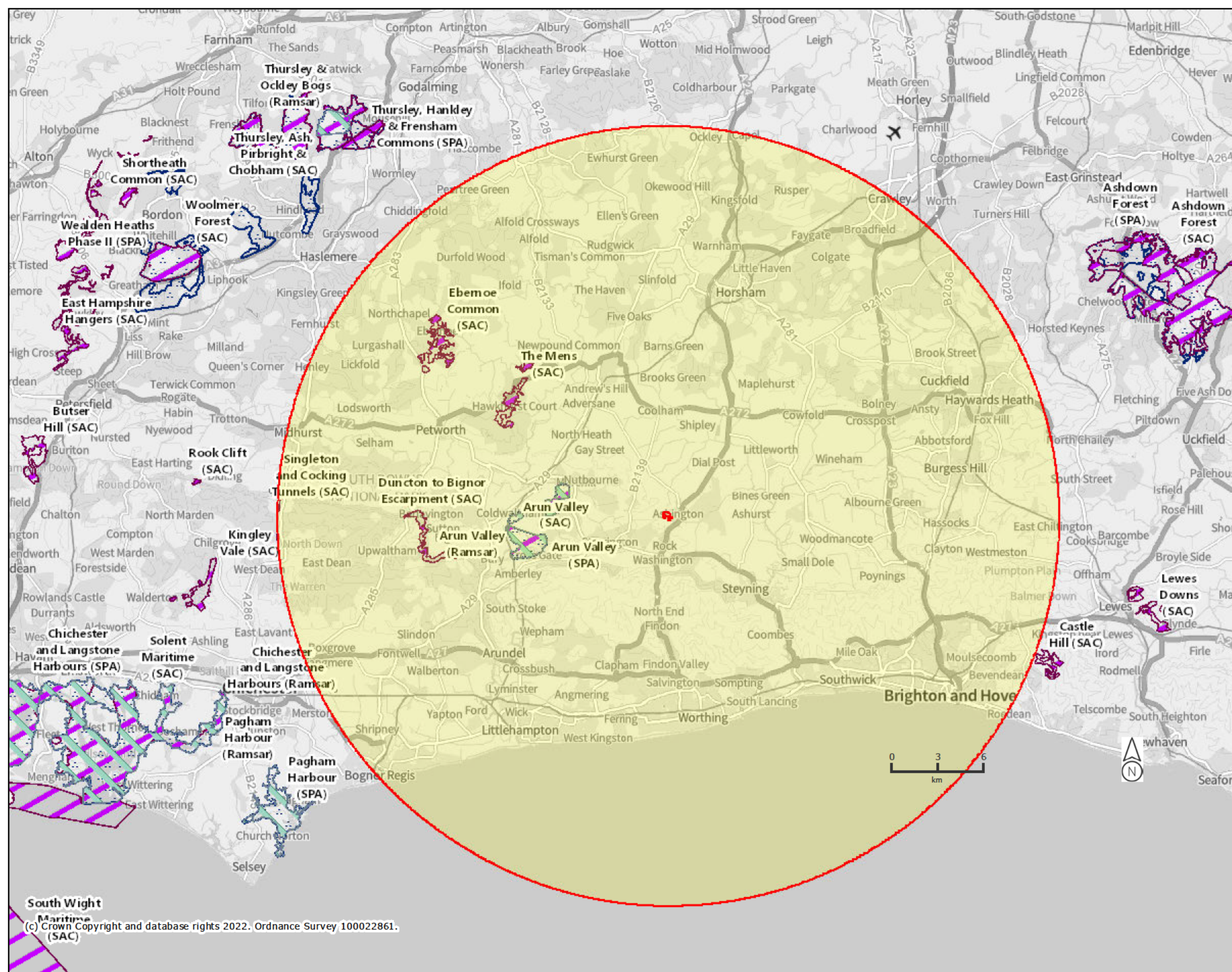
-  Local Nature Reserves (England)
-  National Nature Reserves (England)
-  Sites of Special Scientific Interest (England)

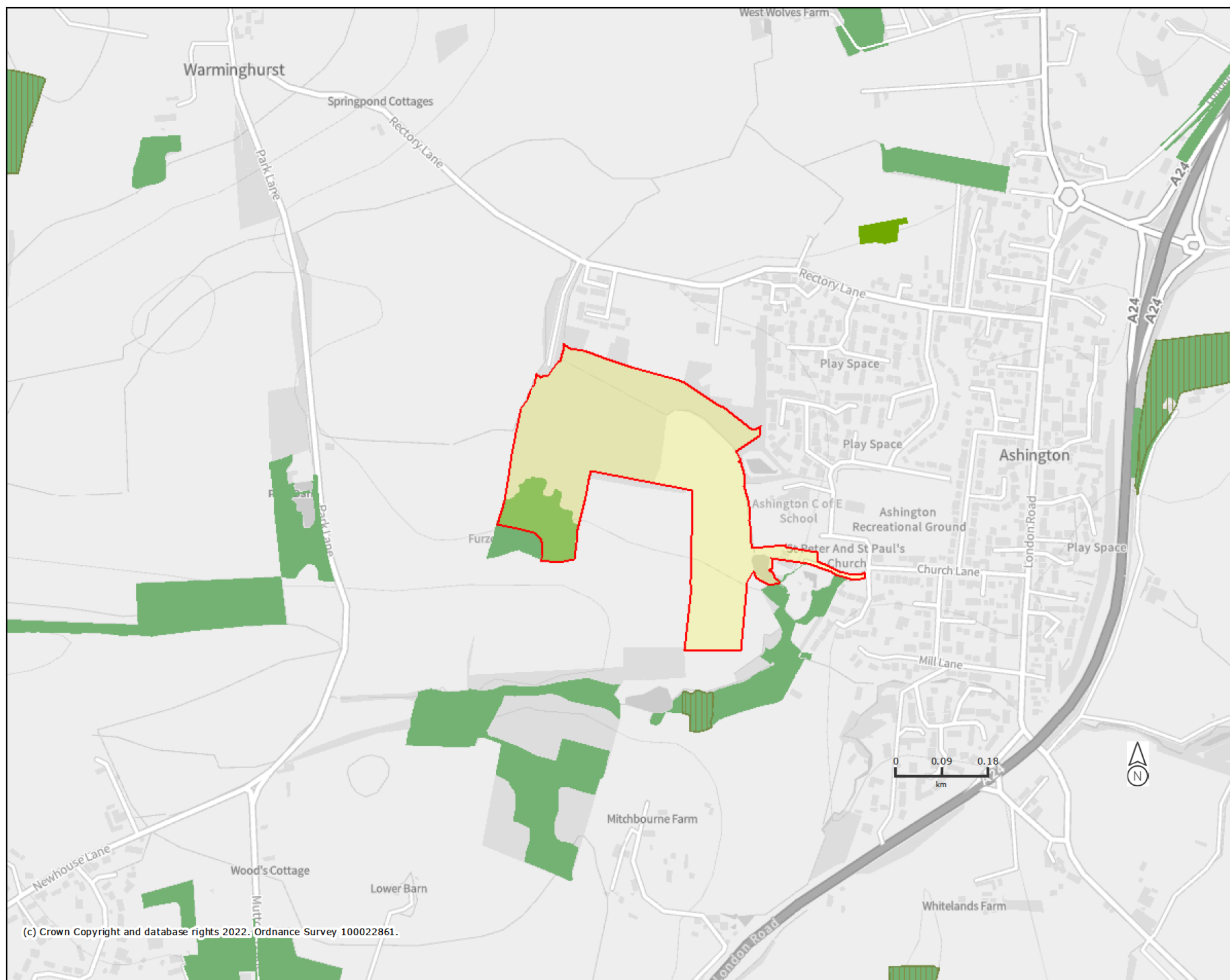
Ancient Woodland (England)

-  Ancient and Semi-Natural Woodland
-  Ancient Replanted Woodland

Projection = OSGB36
 xmin = 499200
 ymin = 109900
 xmax = 524600
 ymax = 122600

Map produced by MAGIC on 22 December, 2022.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.



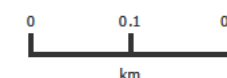


Legend

Ancient Woodland (England)

-  Ancient and Semi-Natural Woodland
-  Ancient Replanted Woodland
-  Priority Habitat Inventory - Deciduous Woodland (England)
-  Priority Habitat Inventory - Traditional Orchards (England)

Projection = OSGB36
 xmin = 510500
 ymin = 115100
 xmax = 514300
 ymax = 117000



Map produced by MAGIC on 22 December, 2022.
 Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGIC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Appendix 6455/4:

Breeding Bird Surveys

Ashington

Breeding Bird Survey

Ecology Surveys

October 2022

Contents

1	Introduction and Methodology.....	1
2	Results.....	2
3	Summary and Conclusions.....	4

1 Introduction and Methodology

- 1.1 Ecology Surveys was commissioned by Aspect Ecology Ltd. in April 2022 to undertake a breeding bird survey of an area of farmland and woodland on the west side of Ashington, a village four kilometres northeast of Storrington in West Sussex.
- 1.2 The site comprises a series of arable and grassland fields, plus an area of woodland, a sizeable pond and some farm buildings. It is bordered to the north and south by further belts of woodland, with housing and gardens to the east, and further farmland to the west.
- 1.3 Three surveys were carried out in May and June 2022 in order to assess breeding bird activity within the site. The weather conditions during the surveys are given in table 1.

Date (2022)	Start time	Weather summary
6 th May	04:25	0/8 cloud, still, 10°C.
30 th May	10:30	7/8 cloud, wind NW2, 15°C.
25 th June	03:30	3/8 cloud, wind SW2, 15°C.

Table 1: Weather conditions during the breeding bird surveys.

- 1.4 On each survey an experienced ornithologist walked a circuitous route around the survey area, covering all habitats, recording the locations, numbers and activity of all bird species present in (and around) the area during this time. Each survey lasted approximately four hours. This methodology ensures that the vast majority of species that use the site would be recorded over the course of the three visits, although some species that may use the site as part of a larger territory may be missed.
- 1.5 To ascertain the breeding status of birds using the site, the following criteria were applied following the methodology used in the 'Atlas' surveys of 1988-1991 (Gibbons *et al*, 1993). This accepts the following activities as denoting breeding (including those probably breeding although definite proof was lacking):
- Bird apparently holding territory.
 - Courtship and display.
 - Nest-building (including excavating nest-hole).
 - Distraction display or feigning injury.
 - Adult carrying faecal sac or food.
 - Adult entering or leaving apparently occupied nest site.
 - Nest with eggs or eggshells found, or bird sitting but not disturbed.
 - Nest with young; or downy young of ducks, game-birds, waders and other nidifugous species.
 - Recently fledged young.

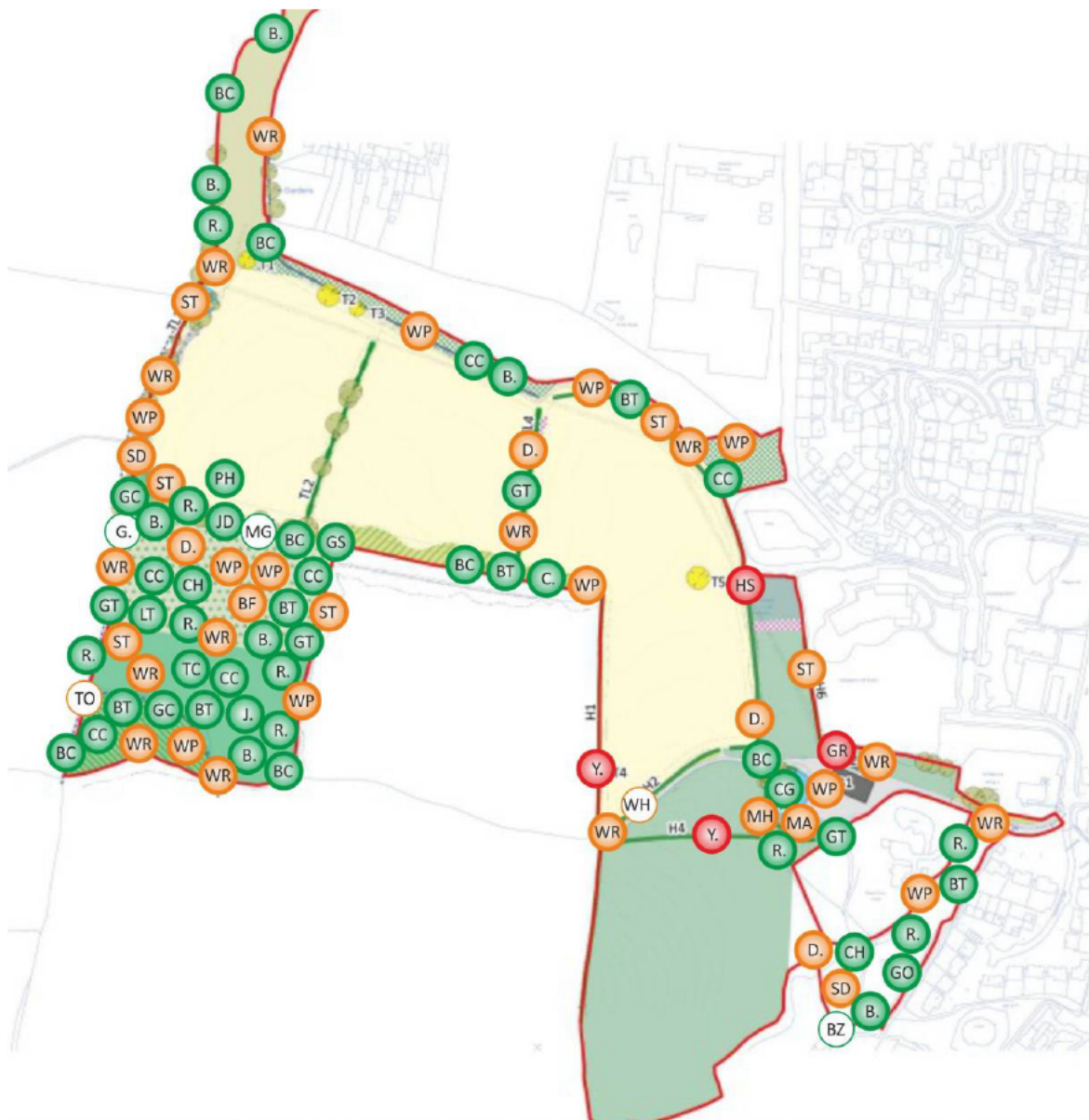
2 Results

- 2.1 A total of 47 species of birds was recorded during the three surveys, of which 28 were considered to be breeding, and five possibly breeding (i.e., not meeting the criteria in paragraph 1.5, although habitat suitable to support the species is present at the site). The remaining 14 species were either breeding in adjacent areas, recorded flying over the site or represented only by non-breeding individuals.
- 2.2 A summary of observations for each species is included in table 2, including the estimated minimum number of territories, whilst the distribution of breeding birds is shown in plan 1.

Systematic list of species (and BTO species code)	RSPB listed	Est. no. pairs	Notes
Canada goose (CG) <i>Branta canadensis</i>	Feral	1	On the pond.
Mallard (MA) <i>Anas platyrhynchos</i>	Amber	1	On the pond.
Pheasant (PH) <i>Phasianus colchicus</i>	Feral	1	
Swift (SI) <i>Apus apus</i>	Amber	0	One over the site on the second visit.
Stock dove (SD) <i>Columba oenas</i>	Amber	2	
Woodpigeon (WP) <i>C. palumbus</i>	Amber	11	
Collared dove (CD) <i>S. decaocto</i>		0	Associated with adjacent housing.
Moorhen (MH) <i>Gallinula chloropus</i>	Amber	1	On the pond.
Herring gull (HG) <i>Larus argentatus</i>	Red	0	Noted flying over.
Grey heron (H.) <i>Ardea cinerea</i>		0	Two flew over in June.
Sparrowhawk (SH) <i>Accipiter nisus</i>	Amber	0	One flew over on the first visit.
Buzzard (BZ) <i>Buteo buteo</i>		0-1	
Tawny owl (TO) <i>Strix aluco</i>	Amber	0-1	
Great spotted woodpecker (GS) <i>D. major</i>		1	
Green woodpecker (G.) <i>Picus viridis</i>		0-1	
Hobby (HY) <i>Falco subbuteo</i>	Sch.1	0	One flew over on the second visit.
Jay (J.) <i>Garrulus glandarius</i>		1	
Magpie (MG) <i>Pica pica</i>		0-1	
Jackdaw (JD) <i>Corvus monedula</i>		1	
Rook (RO) <i>Corvus frugilegus</i>	Amber	0	One flew over in June.
Carrion crow (C.) <i>Corvus corone</i>		1	
Coal tit (CT) <i>Periparus ater</i>		0	A post-breeding bird in June.
Blue tit (BT) <i>Cyanistes caeruleus</i>		6	
Great tit (GT) <i>Parus major</i>		4	
Skylark (S.) <i>Alauda arvensis</i>	Red	0	Noted in adjacent farmland.
House martin (HM) <i>Delichon urbicum</i>	Amber	0	Regularly over the site, perhaps nesting on nearby houses.
Long-tailed tit (LT) <i>Aegithalos caudatus</i>		1	
Chiffchaff (CC) <i>Phylloscopus collybita</i>		6	
Blackcap (BC) <i>Sylvia atricapilla</i>		7	
Garden warbler (GW) <i>S. borin</i>		0	Noted in adjacent woodland.
Whitethroat (WH) <i>Curruca communis</i>	Amber	0-1	
Goldcrest (GC) <i>Regulus regulus</i>		2	
Wren (WR) <i>Troglodytes troglodytes</i>	Amber	12	
Treecreeper (TC) <i>Certhia familiaris</i>		1	
Nuthatch (NH) <i>Sitta europaea</i>		0	A post-breeding bird in June.
Starling (SG) <i>Sturnus vulgaris</i>	Red	0	Associated with adjacent housing.
Blackbird (B.) <i>Turdus merula</i>		7	
Song thrush (ST) <i>T. philomelos</i>	Amber	6	
Robin (R.) <i>Erithacus rubecula</i>		9	
House sparrow (HS) <i>Passer domesticus</i>	Red	1	
Dunnock (D.) <i>Prunella modularis</i>	Amber	4	
Pied wagtail (PW) <i>Motacilla alba</i>		0	Recorded flying over.
Chaffinch (CH) <i>Fringilla coelebs</i>		2	
Bullfinch (BF) <i>Pyrrhula pyrrhula</i>	Amber	1	

Systematic list of species (and BTO species code)	RSPB listed	Est. no. pairs	Notes
Greenfinch (GR) <i>Chloris chloris</i>	Red	1	
Goldfinch (GO) <i>Carduelis carduelis</i>		1	
Yellowhammer (Y.) <i>Emberiza citrinella</i>	Red	2	

Table 2: Bird species recorded during the breeding bird surveys at Ashington.



Plan 1: Distribution of breeding birds at Ashington.

Red, Amber and Green List species are shown in their respective colour. Infilled circles indicate species breeding or probably breeding, unfilled circles those possibly breeding. Species locations do not necessarily show nest-sites, but show the location of each species within its presumed territory. For the key to species, see the systematic list in table 2.

3 Summary and Conclusions

- 3.1 The site supports a relatively diverse breeding bird assemblage, primarily on account of the variety of habitats that are present, with the greatest concentration of breeding activity associated with the block of woodland.
- 3.2 Declining farmland species are represented by two yellowhammer territories in the southeast of the area. Yellowhammer is included on the RSPB Red List having undergone a major decline in its UK population, although it remains common and widespread in both a local and national context.
- 3.3 Other species breeding at the site include mallard and moorhen on the pond, stock dove, woodpigeon, wren, song thrush, house sparrow, dunnock, bullfinch, greenfinch and possibly tawny owl and whitethroat. All these species are included on the RSPB Red or Amber lists having undergone major or moderate declines in their UK populations, although they all remain common and widespread in both a local and national context, as indeed are all the remaining species breeding at the site.

ecology • landscape planning • arboriculture

The logo for Aspect Ecology Ltd features the word "aspect" in a white, lowercase, sans-serif font. A thin, white, diagonal line is positioned above the "t", extending from the top of the letter and pointing towards the right.

Aspect Ecology Ltd
West Court
Hardwick Business Park
Noral Way
Banbury
Oxfordshire OX16 2AF

T: 01295 279721
E: info@aspect-ecology.com
W: www.aspect-ecology.com