



Land at Billingshurst, RH14 9HP

Preliminary Ecological Appraisal



September 2025

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The results of the survey and assessment work undertaken by All Ecology are representative at the time of surveying.

Every endeavour has been made to identify the presence of protected species on site, where this falls within the agreed scope of works.

The flora and fauna detailed within this report are those noted during the field survey and from anecdotal evidence. It should not be viewed as a complete list of flora and fauna species that may frequent or exist on site at other times of the year.

Up to date standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on-site.

All Ecology cannot take responsibility where Government, national bodies or industry subsequently modify standards.

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Reference to sections or particular paragraphs of this document taken out of context may lead to misrepresentation.

Summary

In August 2025, All Ecology Ltd was commissioned to undertake a Preliminary Ecological Appraisal of a site known as Land at Billingshurst, RH14 9HP. The site is predominantly grassland with small pockets of scrub, tall ruderal, a small number of trees, hedgerow and boundary fence.

The site is the subject of a planning application for a mixed development of commercial units and residential plots with associated infrastructure and landscaping.

The development will result in the loss of species-poor grassland, tall ruderal, small pockets of scrub and trees. Landscaping around the development has been proposed to help minimise habitat loss.

The site provides potential habitat for a range of fauna. The following require further consideration:

- Bats – There are no buildings or suitable roosting features in trees and so roosting bats are deemed to be absent. The site provides foraging habitat along hedgerows and the canopies of overhanging trees with a small number trees within grassland, scrub and tall ruderal vegetation providing some further limited value. No significant impact to bats is predicted as a result site clearance. A suitable lighting strategy should be implemented and there is potential for enhancements through roosting provision and landscape design.
- [REDACTED]
- Birds – The hedge, scrub and trees provide potential nesting opportunities for a range of common bird species. No further surveys at this time but any tree felling, clearance of scrub or maintenance of trees or hedges if required, should be undertaken outside the bird nesting season unless a pre-works survey confirms absence.

General suggestions for mitigation and enhancement given.

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1.0 Introduction

Background

- 1.1 In September 2025, All Ecology Ltd was commissioned to undertake a Preliminary Ecological Appraisal of a site known as Land at Billingshurst, RH14 9HP. The site is predominantly grassland with pockets of scrub, tall ruderal, hedge, a small number of trees and boundary fence. The site is located immediately east of Billingshurst Trade and Business Park with road adjacent to the north and south. Open field and house with garden are east of the application site. The wider area is a mosaic of pasture and arable land with pockets of woodland interlinked by a network of hedgerows. The site is located on the northern edge of the town of Billingshurst.
- 1.2 The site is the subject of a planning application for a mixed development of commercial units and residential plots with associated infrastructure and landscaping.

Objectives and Aim

- 1.3 The main objectives and aim of the survey were to identify features of ecological interest, undertake a basic search of habitats present for evidence of use, or potential use, by protected species, and to identify any other possible ecological constraints to any development of the site.

Site Location



Figure 1: Site location plan.



Figure 2: Aerial view of the site.

2.0 Methodology

Personnel

- 2.1 The survey was carried out by Daniel Roberts BSc Hons, an experienced consultant ecologist, and was overseen by James Godbeer BSc Hons MCIEEM, an ecologist with over 18 years' experience working as a consultant. James has extensive experience of managing environmental contracts, and particular experience in surveying, assessment and mitigation for rare and protected species. He has considerable knowledge of the development and planning process including Ecological Impact Assessments, sustainable ecological design and he has completed ecology chapters of Environmental Statements. James holds a number of protected species licences including bats (all species, all counties, Class Licence Registration No. 2015-12313-CLS-CLS), and Great Crested Newts (Class Licence Registration No. 2019-44282-CLS-CLS). He has successfully obtained European Protected Species mitigation licences for a number of bat species including Lesser Horseshoe, Greater Horseshoe, Serotine, Brown Long-eared, Common Pipistrelle and Natterer's bats, for a number of roost types including maternity and hibernation sites.

Desk Study

- 2.2 In order to compile background information on the site and immediate surroundings Sussex Biodiversity Records Centre (SxBRC) was contacted.
- 2.3 Information requested was as follows:
- Statutory site designations on or within 1 km of the site.
 - Non-statutory site designations on or within 1 km of the site.
 - Records of protected species within the 1 km of the site.
 - Records of rare or notable species within the 1 km of the site.
- 2.4 Online OS maps and aerial photographs were inspected for the presence of ponds in the surrounding area. Additionally, MAGIC (Multi-Agency Geographic Information for the Countryside, 2024) was used to establish the distance and direction of statutory and non-statutory designated sites and species records within the search area.

Habitat Survey

- 2.5 The site was visited on the 23rd October 2025 and surveyed in accordance with the Joint Nature Conservation Committee (JNCC) Phase I Habitat Survey methodology (JNCC, 2010). This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential that might warrant further study.
- 2.6 In addition to Phase I, UK Habitat Classification (UKHab) methodology was also used to categorise and map the primary habitat types present within the survey area using a standard set of habitat categories, with associated secondary codes/features identified where applicable (UKHab Ltd, 2023). Details of current management and habitat condition have also been recorded where appropriate.

- 2.7 This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential that might warrant further study.
- 2.8 The presence/absence of injurious and legally controlled weeds was also determined.

Fauna

- 2.9 The habitats present on the site were also searched for signs of animal activity. There were no buildings on site; trees were inspected for potential roosting features for bats such as splits, rot holes cavities etc.



- 2.11 A casual search for evidence of Dormice such as nests and/or gnawed nuts was also carried out.
- 2.12 Incidental observations of invertebrates and birds were recorded and a search made for any signs of previous nesting.
- 2.13 Any refuges on site such as logs or other debris were lifted and inspected for reptiles and amphibians. There were no ponds on site, but two within a 250 m. These ponds are a recently created attenuation basin and a pond that was inaccessible within a private garden. This pond had been previously subject to Great Crested Newt Habitat Suitability Index (HSI) Assessment in 2020 to assess its suitability for this species.

Valuation of Ecological Features

- 2.14 The valuation process used in this report follows the Guidelines for Ecological Impact Assessment in the UK and Ireland from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).
- 2.15 The value of areas of habitat and plant communities has been measured against published criteria where available. Biodiversity Action Plans (BAPs) have been searched to identify whether action has been taken to protect all areas of a particular habitat and to identify current factors causing loss and decline of particular habitats. The presence of injurious and legally controlled weeds has also been taken into account.
- 2.16 When assigning a level of value to a species, its distribution and status (including a consideration of trends based on available historic records) has been taken into account. Other factors influencing the value of a species are: legal protection, rarity and Species Action Plans (SAPs). Guidance, where it is available, for the identification of populations of sufficient size for them to be considered of national or international importance has also been taken into account.

Habitat Suitability Index Assessment

- 2.17 One pond within 250 m of the site was subject to the Great Crested Newt Habitat Suitability Index (HSI) Assessment during a previous survey of the site carried out in 2020. The assessment was undertaken during an Ecological Appraisal by an accredited agent working under Class Licence Registration No. 2019-44282-CLS-CLS, trained in the assessment of water bodies for their potential to support populations of Great Crested Newts.

- 2.18 The HSI is a measure of habitat quality using a numerical index between 0 and 1 derived from an assessment of variables known to influence the presence of Great Crested Newts (Oldham et al. 2000). It is used to assess whether a water body warrants detailed surveys to establish presence or absence of newts and aids in the assessment of impacts and the design of mitigation measures. Since January 2008 it has been a requirement to include the results of HSI assessments in European Protected Species (EPS) licence applications.
- 2.19 To calculate the HSI of the water bodies ecologists first record the following variables before applying the HSI calculation to these: pond size; surface area; water depth; water quality; % shade, % macrophyte cover; presence of fish and waterfowl; number of water bodies within 1 km of survey water body; quality of terrestrial habitat surrounding ponds; and type of marginal/aquatic vegetation (Oldham et al. 2000).
- 2.20 Once the HSI score is obtained it can be used to define water body suitability for Great Crested Newts in the following way (National Amphibian Recording Scheme, 2008):

Table 1: HSI Scores

<0.5	Poor
0.5 – 0.59	Below Average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

- 2.21 Water bodies scoring less than 0.5 are deemed as unlikely to support Great Crested Newts and further surveys are not usually required.

Nomenclature

- 2.22 The English name only of flora and fauna species is given in the main text of this report; however, scientific names are used for invertebrates where no English name is available. Vascular plants and charophytes follow the nomenclature of The Botanical Society for the British Isles (BSBI) 2007 database (BSBI, 2007) with all other flora and fauna following the Nameserver facility of the National Biodiversity Network Species Dictionary (<http://www.nhm.ac.uk/nbn/>), which is managed by the Natural History Museum.

Limitations

- 2.23 The site was fully accessible with no limitations to undertaking the survey in accordance with the stated methodology. One pond local to the site was inaccessible.

3.0 Results

Desk Study

- 3.1 There are no statutory or non-statutory designated sites within 1 km of the site.
- 3.2 The Mens SAC is located 4.9 km to the west for which bats are one of the qualifying features. The Mens is an extensive area of mature beech *Fagus sylvatica* woodland rich in lichens, bryophytes, fungi and saproxylic invertebrates, and is one of the largest tracts of Atlantic acidophilous beech forests in the south-eastern part of the habitat's UK range. It is developing a near-natural high forest structure, in response to only limited silvicultural intervention over the 20th century, combined with the effects of natural events such as the 1987 great storm.
- 3.3 SxBRC provided the following records for protected and notable species within 1 km of the site boundary:

Mammals – Hedgehog, Hazel Dormouse, *Myotis* bat sp., pipistrelle bat sp., long-eared bat sp., unidentified bat sp., Common Pipistrelle, Brown Long-eared Bat. Invasive: Grey Squirrel, Wild Boar.

Birds – Mute Swan, Bewick's Swan, Teal, Mallard, Pochard, Tufted Duck, Grey Partridge, Slavonian Grebe, Red Kite, Hen Harrier, Osprey, Kestrel, Hobby, Lapwing, Common Sandpiper, Woodcock, Ruff, Lesser Black-backed Gull, Herring Gull, Great Black-backed Gull, Black-headed Gull, Stock Dove, Turtle Dove, Cuckoo, Barn Owl, Tawny Owl, Long-eared Owl, Swift, Kingfisher, Green Woodpecker, Lesser Spotted Woodpecker, Willow Warbler, Woodlark, Skylark, San Martin, Swallow, House Martin, Meadow Pipit, Grey Wagtail, Dunnock, Nightingale, Black Redstart, Winchat, Wheater, Fieldfare, Song Thrush, Redwing, Mistle Thrush, Spotted Flycatcher, Pied Flycatcher, Whitethroat, Firecrest, Marsh Tit, Starling, House Sparrow, Lesser Redpoll, Linnet, Bullfinch, Snow Bunting, Yellowhammer.

Reptiles – Grass Snake, Common Lizard, Slow-worm.

Amphibians – Common Frog, Common Toad.

Invertebrates – Coleoptera: Stag Beetle. Lepidoptera: Small Heath, Brown Hairstreak. Orthoptera: Long-winged Cone-head. Invasive: Harlequin Ladybird, *Harmonia axyridis form conspicua* (ladybird), Horse-chestnut Leaf-miner (moth).

Flora – Stinking Chamomile, Rye Brome, Crosswort, Dwarf Spurge, Wild Strawberry, Bluebell, Bitter-vetch, Pale Toadflax, Corn Mint, Wood-sorrel, Tormantil, Lesser Spearwort, Sanicle, Devil's-bit Scabious, Heath Speedwell. Lichen: *Vezdaea leprosa*. Invasive: Red Valerian, Montbretia, Japanese Knotweed, Giant Hogweed, Hybrid Bluebell, Yellow Archangel, Least Duckweed, Virginia Creeper, Winter Heliotrope, Cherry Laurel, Evergreen Oak, False-acacia.

Habitats

- 3.4 The following habitats or vegetation types were identified during the course of the habitat survey:
- Modified grassland (g4)
 - Dense scrub (h3).
 - Ruderal/Ephemeral (BNG17).
 - Trees
 - Species-rich native hedgerow (h2a5)
 - Native hedgerow (h2a)
 - Fence
- 3.5 The site covers two fields, north and south. Grassland in the southern field was found to have abundant Perennial Rye-grass within the sward with locally frequent Yorkshire-fog. Occasional Cock's-foot, False Oat-grass and Fescue sp. were recorded as well as rare occurrences of Meadow Foxtail and Crested Dog's-tail. Forbs recorded within the grassland comprised of occasional Dandelion, White Clover and rare Common Chickweed, Common Sorrel and Dove's-foot Crane's-bill. An area of tall ruderal vegetation is present within the grassland particularly near the centre of the field including Creeping Thistle and Spear Thistle, Broad-leaved Dock, Lesser Hawk-bit, Prickly Lettuce, Common Ragwort, Prickly Sow-thistle, and Groundsel. Annual Meadow-grass and Greater Plantain were recorded over disturbed ground near to a small telecommunications enclosure near to the southeast corner of the field.
- 3.6 The grassland in the north field was dominated by Perennial Rye-grass and Fescue sp., with frequent Cock's-foot, locally frequent Yorkshire-fog, occasional Crested Dog's-tail and False Oat-grass. Forb content comprised of locally frequent Broad-leaved Dock, occasional Creeping Buttercup, White Clover and rare Willowherb sp., Common Ragwort, Bramble agg. Oxtongue, Dove's-foot Crane's-bill, Creeping and Spear Thistle.
- 3.7 Within the grassland there are areas of disturbed ground which have been colonised by short perennial vegetation, tall ruderal species and grasses. There is no dominant species but a mixture of grasses and forbs were recorded including Perennial Rye-grass, Fescue sp., Yorkshire-fog, Tufted Hair-grass, Broad-leaved Dock, Creeping, Spear Thistle, Bristly Oxtongue, Common Ragwort, Dove's-foot Crane's-bill, Yarrow, Ribwort Plantain, Willowherb sp., Common Vetch, Bittercress sp., Bramble agg, Oxeye Daisy and Burnet-saxifrage. There are small areas of compacted stone within the grassland that is likely a result of the land being associated with the recent erection of the trade park to the west.



Photograph 1: General view of the grassland field in the south portion of the site.



Photograph 2: View of the site looking into the north field (trees off site).

- 3.8 There was an area of scrub around the base of an electric pylon with tall ruderal vegetation extending from this. Scrub was dominated by Bramble agg.
- 3.9 Around these areas of scrub was tall ruderal habitat that was dominated by Common Nettle with occasional Creeping Thistle, Broad-leaved Dock, and rare Cleavers, Spear Thistle and Field Speedwell.



Photograph 3: Scrub and tall ruderal habitat adjacent to the south boundary.

- 3.10 One Pedunculate Oak tree is present within the application boundary between the north and south portions of the site.



Photograph 4: One oak tree on site (trees behind are off-site).

- 3.11 There is a species-rich native hedge on the north boundary parallel to New Road which is dominated by Blackthorn with occasional Hawthorn, Ivy, Dog-rose and Bramble and rare occurrences of Pedunculate Oak, Ash and Wild Privet. Bracken was recorded growing within the hedge sporadically.



Photograph 5: Hedge on the north boundary of the site.

- 3.12 The site is partially bound by a mixture of timber post and rail fence with timber panel fence. A footpath runs parallel eastern edge of the north field, within the site and demarked from it with a newly planted native hedge.

Fauna

Bats

- 3.13 SxBRC provided 13 bat records within 1 km of the site which consisted of unidentified bat sp., *Myotis* sp., pipistrelle sp., long-eared sp., Common Pipistrelle and Brown Long-eared Bat:
- Four unidentified bat records, three of which were roost records but all of these were recorded pre-2000.

- Myotis sp., record was also a roost record but was also pre-2000.
- Unidentified Pipistrelle record was of a roost with droppings found, recorded in 2007 approximately 900 m southwest of the site at a local church.
- Four Common Pipistrelle records, three of which were roost records. A feeding roost was found in 2014 approximately 1 km southwest of the site. A Common Pipistrelle maternity roost with 10 infants was recorded in 2012 approximately 785 m south of the site. Another Common Pipistrelle roost is recorded with droppings but this was pre-2000.
- Two Long-eared sp., records one of which is of droppings recorded in 2013 approximately 1 km southwest of the site. There are three Brown Long-eared records within 1 km, two of which were maternity roosts and the other an unspecified roost with droppings. One of the maternity roosts was recorded in 2014 approximately 1 km southwest of the site, with the remaining two records from pre-2000.

3.14 There are no buildings on site and no suitable roosting features were recorded within the site tree.

3.15 The site provides good foraging and commuting habitat for a range of bat species along the hedgerows and trees overhanging the east boundary in the northern portion of the site, which connects to a small pocket of woodland. The hedgerow along the north boundary also provides opportunities for foraging and commuting bats as well as the grassland which provides some limited foraging potential. There were no buildings on site and the tree within the application boundary did not have any roosting features for bats.

[REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Otters and Water Voles

3.17 SxBRC do not provide Otter records and so they may be present in the area. There are no watercourses on or adjacent to the site with no potential for these species to be present here.

Dormouse

3.18 There was one Hazel Dormouse record which was recorded in 2004 approximately 850 m south of the site. The hedgerow provides potentially suitable Dormouse habitat. No evidence of Dormice was recorded.

Other mammals

3.19 SxBRC provided records of Hedgehog, Grey Squirrel and Wild Boar within 1 km of the site. There are ten Hedgehog records within 1 km. The site provides mammal habitat within hedge, scrub

and tall ruderal habitat. Hedgehogs may be present but the site is unlikely to permanently support any other rare or other notable mammal species.

Birds

- 3.20 SxBRC provided a large number of notable and protected bird records within 1 km of the site including Barn Owl, Cuckoo, Song Thrush and Skylark. The survey was undertaken outside of the bird nesting season of March-August and no indication of previous nesting was recorded but nests could have been missed in the denser vegetation and it is possible that birds will nest in the scrub, tree and hedge in future.
- 3.21 The hedge, tree and scrub provide potential foraging opportunities for a range of common bird species with the grassland providing a limited resource. The improved grassland is generally unsuitable for ground nesting birds such as Skylark.

Amphibians

- 3.22 SxBRC provided one Common Toad record and one Common Frog record within 1 km of the site. The site provides limited terrestrial amphibian habitat in the form of hedge, scattered scrub and tall ruderal vegetation; however, these suitable terrestrial habitats were in most part isolated from each other and there were no ponds on site. With regards to the specially protected Great Crested Newt there are two ponds that show on OS maps within 250 m of the site.

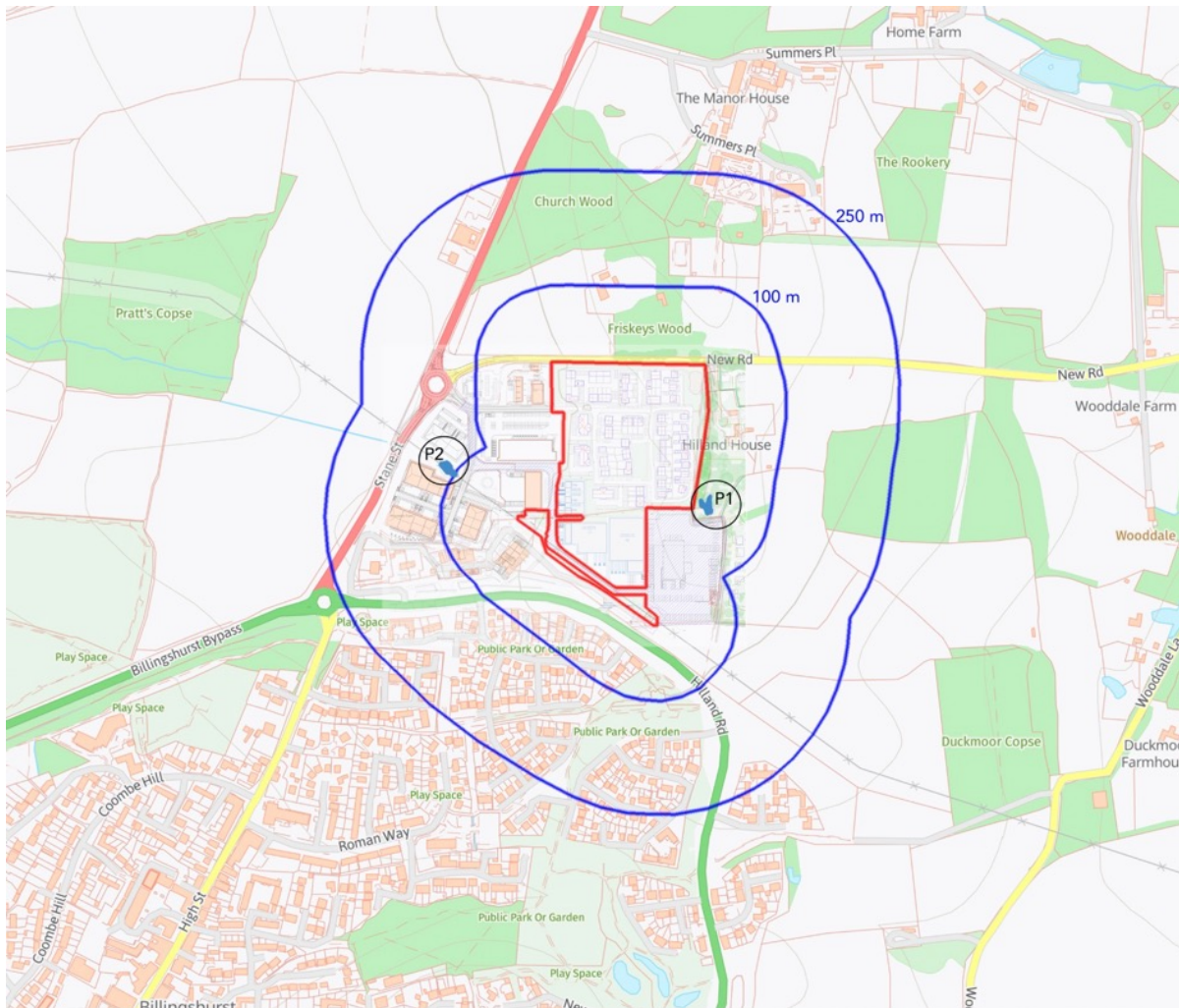


Figure 3: Pond location plan.



Photograph 6: Pond 1 (2020).

- 3.23 Pond 1: This pond is located on private land in trees adjacent to the east boundary of the site. No access to this pond was available during the current survey visit; however, this pond was subject to HSI assessment in 2020 which recorded the following:

- 3.24 The pond is approximately 70 m² in surface area when full; however, even after a period of heavy rainfall the pond was found to be shallow which indicates that it is likely to dry often. The pond is shaded entirely by the surrounding woodland, has poor water quality and no macrophyte's. There was no evidence of fish or fowl presence. Although the terrestrial habitat immediately adjacent to the pond is optimal for GCN, short grassland and lawn habitat that offers limited potential dominates the areas beyond this small group of trees.

Table 2: HSI Assessment (2020)

HSI Calculator	Pond 1	
SI1 - Location	1	1
SI2 - Pond area	2	0.15
SI3 - Pond drying	3	0.1
SI4 - Water quality	4	0.33
SI5 - Shade	5	0.2
SI6 - Fowl	6	1
SI7 - Fish	7	1
SI8 - Ponds	8	0.9
SI9 - Terr'l habitat	9	0.67
SI10 - Macrophytes	10	0.3
HSI Score	Score	0.42

- 3.25 Pond 1 was rated in 2020 as "poor" in regards the ponds' suitability for Great Crested Newts. The pond scored below the 0.5 threshold where further consideration is usually required. It is considered highly likely that Great Crested Newts are absent.



Photograph 10: Pond 2.

- 3.26 Pond 2 is an attenuation basin associated with an adjacent commercial development and located approximately 250 m to the west. It is highly unlikely that Great Crested Newts have populated this waterbody given its recent creation and in any case this pond is isolated from the site by building and hard standing. This waterbody was not subject to HSI Assessment as Great Crested Newts are expected to be absent.
- 3.27 Other ponds in the wider area are isolated from the application site by road and built development.

Reptiles

- 3.28 SxBRC provided records of Grass Snake, Common Lizard and Slow-worm within 1 km of the site. The majority of these records are from 2008 at a site approximately 625 m south of the site. Here there were seven records of Common Lizard consisting of 35 individuals in total, four records of Grass Snake with a total of four individuals, and seven Slow-worm records consisting of a total of 110 individuals. A Slow-worm was also recorded in 2009 approximately 680 m south of the site and another was recorded in 2013 approximately 1 km southwest of the site. The remaining three Grass Snake records are from pre-2000.
- 3.29 New residential developments are now present south of the site and the site itself provides minimal reptile habitat in the form of a short section of hedge, small areas of scrub and tall ruderal vegetation. The majority of the site is open grassland lacking any structure, which is generally unsuitable for reptiles. Reptiles are unlikely to be present here.

Invertebrates

- 3.30 SxBRC provided records of Stag Beetle, Small Heath, Brown Hairstreak and Long-winged Cone-head and invasive Harlequin Ladybird species within 1 km of the site. The habitats on site are common habitat types that do not provide much potential for rare invertebrate species. It is mostly common assemblages of invertebrates that are expected to be present, which are likely to be present across the site within the tree, hedgerow, scrub and grassland.

4.0 Development Constraints and Recommendations

Development Proposals

- 4.1 The site is the subject of a planning application for a mixed development of commercial units and residential plots with associated infrastructure and landscaping.

Desk Study

- 4.2 The Mens SAC is located approximately 4.9 km to the west. Barbastelle is an Annex II species present as a qualifying feature but not a primary reason for selection. The site is generally open and suitable boundary features are limited to the trees and the woodland edge on the north and east boundaries of the north field, which will be retained. Bat Activity Surveys of the site in 2018 recorded minimal activity on the north edge of the site, concluded to be in associated with the off site trees to the north. The only habitat that could be regarded as being of significant potential value i.e. the hedge and trees adjacent to the east boundary of the site, will be retained with a soft landscape buffer to the new buildings. Further surveys are therefore not required.

Habitats

- 4.3 The NERC Priority Habitats include all hedgerows with at least 80% cover of at least one woody UK native species (JNCC, 2020). The on-site hedgerow consisted of at least 80% of native species and is classified as NERC priority habitat. The hedgerows will be retained and therefore a hedgerow assessment to ascertain the importance of this hedgerow is not required.
- 4.4 The grassland on site was classified as 'improved' (modified). In order to qualify as a NERC Priority Habitat, grassland typically has to be unimproved (good semi-improved grassland can also qualify) and would have to be examples of grasslands such as lowland calcareous grassland or lowland dry acid grassland, habitats that can it be concluded are not present on site.
- 4.5 The habitats on site are common, of generally low - moderate ecological value and are easy to replace. Any impacts as a result of loss/changes to these habitats in terms of their vegetation are considered to be negligible.
- 4.6 Where new areas of habitat are to be created, consideration should be given to the seeding of these areas using appropriate seed mixes. Where possible these seeds should be locally sourced to support the genetic integrity of local wild plant populations. Where new trees or shrubs are to be planted, native tree and shrub species should be used as these are most beneficial to invertebrates, and many also produce seeds, nuts and berries that are food for native mammals and birds. Planting of non-native plant species should be limited to those that are not invasive and should prioritise those that provide a good source of nectar for invertebrates e.g. Jasmine. It is likely that the full landscape details will be provided in an Ecological Mitigation and Management Plan (EMMP) secured by an appropriate condition.
- 4.7 Where hedges are to be planted the following species-rich mix is recommended to encourage wildlife: Hawthorn 40%, Blackthorn 15%, Hazel 10%, Field Maple 10%, Holly, Dog-rose, Spindle, Wild Privet and Wych Elm, all 5%. Management practices for new hedgerows include laying the hedgerows to encourage bushy growth low down, trimming only every three years or less if possible, and maintaining them at a height of at least three metres.

Protected and Notable Species

Bats

- 4.8 The site as a whole provides a limited foraging resource with most activity likely to be associated with hedgerow on the north boundary and offsite trees to the east. No significant impact to bats is associated with the clearance of grassland, small pockets of scrub and tall ruderal. Further activity surveys are not considered necessary and the trees to be removed do not have any potential roosting features.
- 4.9 The lighting strategy should ensure that external lighting is kept to a minimum in order to minimise disturbance to foraging and commuting bats. In general, measures should include the use of lighting only where absolutely necessary utilising highly directional warm white LED lighting, an example being down spots at 2.5 m high using warm white (2700 K) 8W LED lamps, 550 lumens, 35 degree beam angle. These could be individually activated by PIR sensors on a 1 minute cut off to further reduce their impacts. These will assist in lighting only the areas where lighting is required and minimising light spill either directly or through reflected light.
- 4.10 The proposed development provides an opportunity to enhance the site for roosting bats by incorporating roosts into the new buildings and these will usually be requested by the local planning authority. There are many ways that the buildings could be enhanced for crevice-dwelling bat species without any significant design considerations such as the installation of bat tubes or panels.

Dormice

- 4.11 The site provides suitable habitat for Dormice in the boundary hedgerow but the areas of scrub are small and isolated. No evidence of Dormice was recorded; however, presence in the boundary hedge cannot be entirely ruled out.
- 4.12 The proposals will retain boundary habitats with buffers maintained to the north and east boundaries in the north portion of the site. In this case, given that suitable habitats are to be retained, no impacts to this species are predicted in the event of presence and habitats will continue to provide potential for this species. No further survey is therefore required.

[REDACTED]

[REDACTED]

Birds

- 4.14 The site provides bird foraging habitat within the grassland, hedge, trees, scrub and tall ruderal with the tree, hedge and scrub also providing nesting opportunities for birds. No nests were recorded but nests may have been missed in the denser vegetation and it is likely birds will nest in the trees, hedge and scrub in future.

- 4.15 All nesting birds are protected under The Wildlife and Countryside Act 1981 (and amendments). No further surveys are recommended at this time but as a precaution it is recommended that any clearance of scrub where required, be carried out outside of the bird-nesting season of March to August. Where this is not possible, the vegetation would need to be surveyed for nesting birds by a suitably qualified ecologist prior to vegetation clearance. If they are found, then the nest and surrounding habitat must remain intact until the young have fledged. On-going maintenance should take place outside the bird nesting season.
- 4.16 The new development should include enhancements for nesting birds to compensate for the loss of small areas of nesting habitat and generally enhance the site. The new building may provide an opportunity to enhance the site for birds and the following options could be explored for inclusion on the north and/or east sides of the building:
- Nest boxes for Swifts could be incorporated into the eaves. These not only provide nesting sites for Swifts but can also be used by other species such as House Sparrows and Starlings.
 - House Martin nests could be provided under the eaves or on the north to east sides of the building.
 - Individual boxes, such as the Schwegler Bird Home 1MR, could also be installed at a height of at least 2 m.
 - Groups of multiple small bird boxes could also be installed at a height of least 2 m to provide nesting sites for birds such as House Sparrows.
 - Boxes could also be installed on retained mature trees; these should be fixed a minimum of 2 m from the ground, with the entrance hole between north and east. This avoids the worst of the weather and prevents the box and its inhabitants becoming overheated in sunny weather.

Invertebrates

- 4.17 The mix of habitats on site provide habitat for a variety of common invertebrate species; however, potential for more notable species is limited. The creation of habitats as part of the landscape scheme is likely to provide new and better opportunities for invertebrates. Further enhancement for invertebrates is advised by creating deadwood piles and installing invertebrate homes for pollinators.

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