

RYDON HOMES LTD



ECOLOGY SOLUTIONS

Part of the ES Group

LAND SOUTH OF
ST. STEPHENS CHURCH,
HAMSLAND,
HORSTED KEYNES,
WEST SUSSEX

Ecological Assessment

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1. INTRODUCTION

1.1. Background & Proposals

- 1.1.1. Ecology Solutions was commissioned by Rydon Homes Ltd in February 2019 to undertake an Ecological Assessment of land south of St. Stephens Church, Hamsland, Horsted Keynes, West Sussex hereafter referred to as 'the site' (see Plan ECO1).
- 1.1.2. The proposals for the site are for residential housing with associated infrastructure and landscape planting (see Appendix 1).

1.2. Site Characteristics

- 1.2.1. The site comprises a single grassland field with boundary hedgerows. The site is located to the south of Horsted Keynes, West Sussex and is bordered to the north and east by existing residential housing and a church, with grassland fields to the south and west of the site.

1.3. Ecological Assessment

- 1.3.1. This document assesses the ecological interest of the site. The importance of the habitats within the site is evaluated with due consideration given to the guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)¹.
- 1.3.2. Where necessary mitigation measures are recommended so as to safeguard any significant existing ecological interest within the site. Specific enhancement opportunities that are available for habitats and wildlife within the site are detailed where appropriate, with reference to the 'UK Post-2010 Biodiversity Framework'². Finally, conclusions are drawn.

¹CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1*. Chartered Institute of Ecology and Environmental Management, Winchester.

² JNCC and Defra (on behalf of the Four Countries' Biodiversity Group) (2012) *UK Post-2010 Biodiversity Framework*. July 2012. <http://jncc.defra.gov.uk/page-6189>

2. SURVEY METHODOLOGY

2.1. The methodology utilised for the survey work can be split into three areas, namely desk study, habitat survey and faunal survey. These are discussed in more detail below.

2.2. Desk Study

2.2.1. In order to compile background information on the site and the surrounding area, Sussex Biodiversity Records Centre (SxBRC) was contacted in March 2019. Where appropriate this information is included within this report, although much of it is cited as confidential and can only be made available upon request under the records centre terms and conditions.

2.2.2. Further information on designated sites from a wider search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)³ database. This information is reproduced where appropriate on Plan ECO1 and at Appendix 2.

2.3. Habitat Survey Methodology

2.3.1. Habitat surveys were carried out in March and April 2019 in order to ascertain the general ecological value of the site and to identify the main habitats and associated plant species. An additional survey was undertaken in June 2019 to survey the site during the optimal period for Phase 1 surveys and an updated walkover survey was undertaken in September 2020.

2.3.2. The site was surveyed based around extended Phase 1 survey methodology⁴, as recommended by Natural England, 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.

2.3.3. 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.

2.3.4. All 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 at different seasons. The initial survey work was undertaken within the sub-optimal period for Phase 1 surveys, although the majority of the site is heavily grazed grassland and given the weather has remained warm/mild into October, it is considered that an accurate and robust assessment has been made.

2.4. Faunal Survey

2.4.1. Obvious faunal activity, such as birds or mammals observed visually or by call during the course of the surveys, was recorded. Specific attention was

³ <http://www.magic.gov.uk>

⁴ Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.

paid to any potential use of the site and by protected species, species of principal importance (Priority Species), or other notable species.

2.4.2. In addition, specific surveys were undertaken for bats, Badgers *Meles meles*, Great Crested Newts *Triturus cristatus* and reptiles.

2.4.3. Experienced ecologists undertook the faunal surveys with regard to established best practice and guidance issued by Natural England. Details of the methodologies employed are given below.

Bats

2.4.4. Field surveys were undertaken with regard to best practice guidelines issued by Natural England⁵, the Joint Nature Conservation Committee⁶ and the Bat Conservation Trust⁷.

Tree Assessment

2.4.5. Trees within and immediately adjacent to the site were assessed for their potential to support roosting bats in March 2019 and September 2020. Ladders, binoculars and an endoscope were used where necessary.

2.4.6. For a tree to be classified as having some potential for roosting bats it must usually have one or more of the following characteristics:

- Obvious holes, e.g. rot holes and old Woodpecker holes;
- Dark staining on the tree, below the hole;
- Tiny scratch marks around a hole from bat claws;
- Cavities, splits and or loose bark from broken or fallen branches, lightning strikes etc; and
- Very dense covering of mature Ivy *Hedera helix* over the trunk.

2.4.7. The habitats were also assessed for their potential to support foraging and commuting bats.

Badgers

2.4.8. Specific surveys were undertaken within and adjacent to the site, to search for evidence of Badgers in March 2019 and September 2020. Such surveys comprise two main elements. The first of these is a thorough search for evidence of Badger setts. For any setts that were encountered, standard survey practice would record the location of each sett entrance, even if the entrance appeared disused. The following specific information was recorded where appropriate:

- i) The number and location of well used or very active entrances; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.

⁵ Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.

⁶ Mitchell-Jones, A.J. & McLeish, A.P. (2004). *Bat Workers' Manual*. 3rd edition. Joint Nature Conservation Committee, Peterborough.

⁷ Bat Conservation Trust (2016). *Bat Surveys for Professional Ecologist – Good Practice Guidelines 3rd Edition*. Bat Conservation Trust, London.

- ii) The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance, or have plants growing in or around the edge of the entrance.
 - iii) The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be together with the remains of the spoil heap.
- 2.4.9. Secondly, any evidence of Badger activity such as well-worn paths, run-throughs, snagged hair, footprints, latrines and foraging signs was recorded so as to build up a picture of the use of the site, if any, by Badgers.

Great Crested Newts

- 2.4.10. Pond P1 is located approximately within 215m southeast of the site boundary and is a garden pond, which is separated from the site by a small road and grazed grassland fields. Pond P1 is the only pond within 250m of the site boundary, although pond P2 is located in close proximity to pond P1 and is located approximately 260m southeast of the site boundary (see Plan ECO1).

eDNA Survey

- 2.4.11. A specific environmental DNA (eDNA) sample survey was undertaken in April 2019 for pond P2. P1 was not subject to an eDNA survey due to Great Crested Newts being recorded during the presence/absence survey which was undertaken on the same day as the eDNA survey.
- 2.4.12. The eDNA survey involves collecting 15-20 samples of 40ml of pond water at equally spaced locations around the perimeter of a pond. These 15-20 samples are then mixed together in a plastic sample bag to form a single amalgamated sample of the water in the pond. The amalgamated sample is mixed thoroughly to ensure any DNA present does not collect at the base of the sample bag.
- 2.4.13. 15ml of water is taken from the amalgamated sample and added to 35ml of ethanol within a sample tube, to preserve any DNA present. The sample tubes are then shaken vigorously to mix the water sample and ethanol thoroughly and prevent degradation of any DNA. This technique is repeated six times, using water from the amalgamated sample, such that six sample tubes are filled.
- 2.4.14. The six sample tubes are analysed using polymerase chain reaction amplification techniques. The analysis involves producing DNA sequences that verify the taxonomic assignment of amplified DNA signals.

Presence/Absence Surveys

- 2.4.15. Ponds P1 was subject to specific Great Crested Newt surveys by Ecology Solutions during the optimum survey period in 2019. The eDNA survey

returned negative for Pond P2 and therefore was not subject to further surveys.

- 2.4.16. These surveys followed the guidance detailed within the Great Crested Newt Mitigation Guidelines⁸. This states that for presence/absence surveys at least three survey methodologies should be undertaken at a pond. As such, the survey methodology undertaken principally comprised three methods, torch survey, bottle-trapping and netting, although terrestrial and egg searches were also conducted in order to create a thorough and robust survey.
- 2.4.17. Surveys were carried out between April and June 2018 during suitable survey weather conditions, which are deemed to be those nights when the night-time air temperature is more than 5°C, with little or no wind and no rain. The surveys were conducted during such conditions.
- 2.4.18. Torch counting involved the use of high-powered torches to find and, if possible, count the number of adults of each amphibian species. As recommended in the guidelines the entire margin of the ponds was continually walked, slowly checking for Great Crested Newts.
- 2.4.19. Bottle trapping involves setting traps made from two-litre plastic bottles around the pond margins. The traps were left overnight and checked the following morning. A density of one trap per two metres of shoreline was utilised where possible.
- 2.4.20. In theory, netting involves sampling for a period dictated by the size of the waterbody, and the guidelines recommend 15 minutes of search time for every 50 metres of shoreline. In practice, the search time significantly exceeded this recommendation.
- 2.4.21. Egg searches are detailed within the mitigation guidelines, as being an effective method for detecting Great Crested Newts. It involves the systematic searching of both live and dead submerged vegetation around ponds for the eggs of Great Crested Newts.
- 2.4.1. Potential terrestrial newt habitat located within the site and around the ponds was also searched for the presence of Great Crested Newts between April and June 2019. This involved searching under logs and rocks, which are favoured hiding places for Great Crested Newts.

Reptiles

- 2.4.2. The site provides limited suitable habitat for reptiles in the form of tall grass field margins although the sites grassland is subject to regular cutting.
- 2.4.3. Specific surveys for reptiles were carried out between May and July 2019 within the site. The methodology utilised principally derived from guidance given in the Herpetofauna Workers Manual⁹. Areas of suitable habitat were surveyed for the presence of reptiles using artificial refugia (“tins”). In total 60 0.5m x 0.5m roofing felt tins were placed within suitable habitat within

⁸ English Nature. 2001. Great Crested Newt Mitigation Guidelines. Peterborough.

⁹ Gent, T and Gibson, S. JNCC. (2003). Herpetofauna Workers Manual. Peterborough

the site. The tins were positioned in the site in mid-April 2019 to allow two weeks bedding / settling in, before the surveys commenced.

- 2.4.4. The tins provide shelter and heat up quicker than the surroundings in the morning and can remain warmer than the 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.
- 2.4.5. To determine presence / absence the tins were checked for reptile activity over seven visits at appropriate times of the day (avoiding the middle of the day when the ambient air temperature is at its highest) in accordance with Natural England guidance. Optimum weather conditions for reptile surveying are temperatures between 10°C and 17°C, intermittent or hazy sunshine and little or no wind.

3. ECOLOGICAL FEATURES

3.1. A habitat survey was undertaken within the site in March 2019, June 2019 and September 2020 and the following main habitat/vegetation types were identified within the site:

- Species-poor Semi-improved Grassland;
- Tree Belt; and
- Hedgerows.

3.2. The location of these habitats is shown on Plan ECO2.

Semi-improved Grassland

3.3. The site includes a single grassland field which is subject to regular management through cutting, although the margins receive less management.

3.4. Species present within the sward include Perennial Rye-grass *Lolium perenn*, Cock's-foot *Dactylis glomerata*, Meadow Foxtail *Alopecurus pratensis*, Yorkshire Fog *Holcus lanatus* and Crested Dog's-tail. Herbaceous species present include Yarrow *Achillea millefolium*, Creeping Buttercup *Ranunculus repens*, White Clover *Trifolium repens*, Cleavers *Galium aparine*, Cut-leaved Cranesbill *Geranium dissectum*, Bramble *Rubus fruticosus agg*, Sun Spurge *Euphorbia helioscopia*, Daisy *Bellis perennis*, Daffodil *Narcissus pseudonarcissus*, Common Sorrel *Rumex acetosa*, Common Mouse-ear *Cerastium fontanum*, Cow Parsley *Anthriscus sylvestris*, Hedge Woundwort *Stachys sylvatica*, Lords-and-Ladies *Arum maculatum*, Primrose *Primula vulgaris*, Hogweed *Heracleum sphondylium*, Wood Avens *Geum urbanum*, Ribwort Plantain *Plantago lanceolata*, Broad-Leaved Dock *Rumex obtusifolius*, Common Field-speedwell *Veronica persica*, Ground-ivy *Glechoma hederacea*, Greater Stitchwort *Stellaria holostea*, Cat's-ear *Hypochaeris radicata*, White Stonecrop *Sedum album*, Wavy Bitter-cress *Cardamine flexuosa*, Pignut *Conopodium majus* Green Alkanet *Pentaglottis sempervirens* and Dove's-foot Crane's-bill *Geranium molle*.

Tree Belt

There is an unmanaged tree belt located along the southwestern boundary of the site. The understorey is dominated by Holly *Ilex aquifolium*, other species present include Pedunculate Oak *Quercus Robur*, Beech *Fagus sylvatica*, Bramble, Ivy, Dog-rose *Rosa canina*, Elder *Sambucus nigra*, Hazel *Corylus avellana*, Honeysuckle *Lonicera periclymenum*, Ash *Fraxinus excelsior*, Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa*.

Hedgerows

3.5. There are four hedgerows within the site, (H1-H4) each of which are described individually below.

3.6. Hedgerow H1 is box-cut to approximately 2m in height and forms part of the southeastern boundary of the site. The hedgerow is dominated by Hazel and Holly, while other species include Dog-rose, Bracken *Pteridium aquilinum*, Beech, Honeysuckle, Ash, Bramble and Ivy.

- 3.7. Hedgerow H2 is newly-planted and box-cut to approximately 2m in height. It is comprised of Hawthorn and forms a northeastern boundary.
- 3.8. Hedgerow H3 is box-cut to approximately 3m in height and forms the northeastern boundary of the site. Species present include Holly, Hawthorn, Hazel and Cherry Laurel.
- 3.9. Hedgerow H4 is box-cut to approximately 1-2m in height and forms a residential northwestern boundary of the site. Species present include Leyland Cypress *Cupressus leylandii*, Forsythia *Forsythia* sp., Bramble, Hawthorn, Holly, Beech, Fir *Abies* sp. and Cherry Laurel.

Background Information

- 3.10. SxBRC returned no record of protected species within the site. The closest notable record was for a Welsh Poppy *Meconopsis cambrica* located approximately 0.37km northeast of the site in 2011. During the surveys, this species was not recorded within the site.

4. WILDLIFE USE OF THE SITE

- 4.1. General observations were made during the surveys of any faunal use of the site, with specific attention paid to the potential presence of protected species. Specific surveys were undertaken for bats, Badgers, Great Crested Newts and reptiles in 2019 and 2020.

Bats

Tree Surveys

- 4.2. No trees within the site were recorded as having the potential to support roosting bats.
- 4.3. **Background Information.** SxBRC returned no records of any bats from within the site itself. The closest record returned included Common Pipistrelle *Pipistrellus pipistrellus* and Long-eared *Plecotus* sp located adjacent to the northeast of the site in 2013. These records are identified as roost exist counts, although the roost is unspecified.
- 4.4. The hedgerows and tree belt within the site are considered to provide limited habitat for foraging and commuting bats.

Badgers

- 4.5. Surveys recorded no evidence of Badgers such as any setts, latrines, snagged hairs, foraging marks or footprints within or immediately adjacent to the site. A mammal path and a push-through were recorded within the site (see Plan ECO2).
- 4.6. **Background Information.** SxBRC does not provide records of Badgers and the Sussex Badger Trust confirmed that there are no records within the local area.
- 4.7. Given that no evidence of Badger was recorded within the site and the surrounding habitat, Badgers are not considered to be present within the site. Therefore, no further consideration is given to Badgers within this document.

Other Mammals

- 4.8. No evidence of any other notable mammals was recorded within the site.
- 4.9. **Background Information.** SxBRC returned no records of any other notable mammals within the site itself. The closest record returned was for the priority species Hedgehog *Erinaceus europaeus* site 0.3km northwest of the site from 2017. The site is considered to provide limited habitat for Hedgehogs and it is considered Hedgehogs would not be reliant on the site given the surrounding suitable habitat within the local area. In any event suitable habitat for this species would be present post-development e.g. gardens and areas of public open space.

Great Crested Newts

- 4.10. The grassland within the site provides sub-optimal habitat for Great Crested Newts due to it being subject to regular management. As such, the grassland provides only very limited foraging opportunities for Great Crested Newts and

any potential use would be restricted to dispersal. The hedgerows and tree belt provide some suitable terrestrial habitat (resting opportunities) for Great Crested Newts.

- 4.11. Pond P1 is the only pond within 250m of the site boundary, although it is separated from the site by a small road and grazed grassland. Pond P2 is located just over 250m, although is not separated from the site by a small road and these ponds are approximately 70m from each other.

eDNA Survey

- 4.12. The eDNA survey recorded pond P2 as negative for Great Crested Newt and pond P1 are not subject to an eDNA survey given that Great Crested Newts were physically recorded within the pond.

Presence/Absence Surveys

Table 1. Presence/Absence Survey Results Table.

Survey Date	Temperature and Weather	Amphibians Recorded			
		Great Crested Newt		Smooth Newt	
		Male	Female	Male	Female
01.05.2019	11	1	2	0	0
07.05.2019	11	0	2	0	0
16.05.2019	10	0	0	1	1
21.05.2019	17	1	1	0	0
30.05.2019	18	0	0	0	0
05.06.2019	14	0	0	0	0

Habitat Suitability Index

- 4.13. A Habitat Suitability Index (HSI) assessment was carried out on the two ponds (P1 and P2). The HSI score for a pond lies between 0 and 1, with 0 indicating unsuitable habitat and 1 indicating optimal habitat. A score of <0.5 indicates poor habitat, 0.5-0.59 indicates below average habitat, 0.6-0.69 indicates average habitat, 0.7-0.79 indicates good habitat and >0.8 indicates excellent habitat.

Table 2. HSI Results Table.

Pond	P1	P2
Location	1	1
Pond area	0.4	0.2
Pond drying	0.9	0.5
Water quality	0.67	0.33
Shade	1	0.6
Fowl	1	1
Fish	1	1
Ponds	1	1
Terrestrial habitat	0.67	1
Macrophytes	0.7	0.4
HSI Score	0.80	0.62

- 4.14. The HSI score for pond P1 has been calculated at 0.80, indicating that the pond offers excellent habitat for Great Crested Newts. The HSI score for pond P2 has been calculated at 0.53, indicating that the pond offers average habitat for Great Crested Newts.
- 4.15. **Background Information.** SxBRC returned no records of any Great Crested Newt from within the site itself. The closest record returned was located approximately 1.2km south of the site in 2014.
- 4.16. Although it is known that Great Crested Newts can disperse up to 500m through suitable terrestrial habitat from their breeding pond, it is widely accepted that they tend to utilise suitable terrestrial habitat within a much closer distance. Activity is usually concentrated within 100m of breeding ponds and key habitat is located within 50m (termed by Natural England as core habitat).
- 4.17. Pond P1 supports a very low population of Great Crested Newts and given the surrounding habitat it is considered that this low population would be limited to the core suitable habitat that surrounds the pond.
- 4.18. It is considered that given Great Crested Newts are not present in pond P2, which provides average habitat for Great Crested Newts and the small distance between the ponds (70m), that the small road between pond P1 and P2 is a significant dispersal barrier for Great Crested Newt.
- 4.19. As such, with pond P1 supporting a low population that is likely restricted to the core habitat around the pond, the small road is a dispersal barrier between the site and pond P1 and given the distance of pond P1 and the site (215m) and the grazed / managed habitat that separates them, it is considered that Great Crested Newts utilise the core habitat within close proximity to pond P1. Therefore, Great Crested Newts are not considered to be present within the site and no further consideration is given to Great Crested Newts within this document.

Reptiles

- 4.20. The site provides only limited habitat for reptiles given it's regularly cut, although the margins receive less management and provide suitable habitat between cuttings.
- 4.21. Specific reptile surveys were carried out between May and June 2019. The results of the survey are detailed in the table below.

Table 3. 2019 Reptile Survey Results.

Survey Date	Survey Time	Temperature and Weather	Reptiles Recorded		
			Slow Worm		Common Lizard
			Adult	Junvinle	Adult
01.05.2019	8:00	14	5	0	0
07.05.2019	9:00	11	2	0	0
17.05.2019	17:00	18	2	0	0
21.05.2019	16:30	19	1	0	0
30.05.2019	9:15	15	6	1	0
05.06.2019	9:00	19	5	1	1
24.06.2019	8:50	19	3	5	0

- 4.22. The surveys undertaken along the field margins recorded a low population of Slow Worm *Anguis fragilis* and Common Lizard *Zootoca vivipara*.
- 4.23. **Background Information.** SxBRC returned no records of any reptiles from within the site itself. The closest reptile record returned was for a Grass Snake *Natrix helvetica* located approximately 0.36km northeast of the site in 1998.

Birds

- 4.24. Starling *Sturnus vulgaris* a priority species and Red List species was recorded within the site. A small number of other common bird species were also recorded including Robin *Erithacus rubecula*, Wren *Troglodytes troglodytes* and Goldcrest *Regulus regulus*.
- 4.25. **Background Information.** SxBRC returned a nonspecific location record (4 figure grid reference) that covers the site for a Barn Owl *Tyto alba* (Schedule 1) recorded in 2013.
- 4.26. The site is considered to provide limited habitat for Barn Owl due to its regular management and it is considered that Barn Owl would not be reliant on the site given the surrounding suitable habitat within the local area.

Invertebrates

- 4.27. Given the habitats present and its intensive grazing, it is likely only an assemblage of common invertebrate species would be present within the site. There is no evidence to suggest that any rare or notable species would be present.
- 4.28. **Background Information.** SxBRC returned no records of any notable invertebrate species within the site itself. The closest record was a Purple Emperor *Apatura iris* 0.38km northwest of the site in 2010. This species is widespread throughout most of Britain and the caterpillar feeds on Goat Willow *Salix caprea* and breeds of Grey Willow *Salix cinerea* and rarely Crack Willow *Salix fragilis*. These Willow species are not within the site and therefore the site is not considered suitable for this species.

Other Species

- 4.29. Given the habitats present and records from the local area, there is no evidence from site surveys or desk studies to suggest that any other protected or notable species would be present within the site or affected by the proposed development.

5. ECOLOGICAL EVALUATION

5.1. The Principles of Ecological Evaluation

- 5.1.1. The latest guidelines for ecological evaluation produced by CIEEM¹⁰ propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.
- 5.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe¹¹. These are broadly used across the United Kingdom to rank sites so priorities for nature conservation can be attained. For example, current Sites of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.
- 5.1.3. In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological/geographical units are also incorporated into the ranking procedure.
- 5.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.
- 5.1.5. Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a woodland type with a comparatively poor species diversity, common in the south of England, may be of importance at its northern limits, say in the border country.
- 5.1.6. In addition, habitats of local importance are often highlighted within a local Biodiversity Action Plan (BAP). The Sussex BAP currently lists a number of Priority habitats and species.
- 5.1.7. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the International level.
- 5.1.8. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

¹⁰CIEEM (September 2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester

¹¹ Ratcliffe, D A (1977). *A Nature Conservation Review: the Selection of Study areas of Biological National Importance to Nature Conservation in Britain*. Two Volumes. Cambridge University Press, Cambridge.

5.2. Habitat Evaluation

Designated Sites

- 5.2.1. **Statutory Sites:** There are no statutory designated sites of nature conservation value within or immediately adjacent to the site. The nearest statutory designated site is Freshfield Lane SSSI, which is located approximately 1.1km south of the site. Freshfield Lane SSSI is designated for its geological value. The closest SSSI designated for ecology is the Ashdown Forest SSSI.
- 5.2.2. The SSSI Impact Risk Zones for likely impacts on SSSI, Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar sites indicated that there will be no impact from the proposed residential development within the site.

Ashdown Forest

- 5.2.3. The closest European designated site is the Ashdown Forest SPA, also designated as a Special Area of Conservation (SAC) and SSSI, located approximately 3.6km northeast of the site.
- 5.2.4. The forest is classified as being of European level importance on account of its heathland habitats and for Annex 1 (birds) and Annex II species which are supported at important population levels. The SPA was classified in March 1996.
- 5.2.5. Ashdown Forest SPA covers an area of 3207.08 hectares and qualifies under Article 4.1 of the Birds Directive on account of it supporting breeding populations of Nightjar *Caprimulgus europaeus* and Dartford Warbler *Sylvia undata*.
- 5.2.6. Ashdown Forest SAC covers an area of 2729 hectares and was designated in April 2005. The Ashdown Forest SAC is designated on account of the presence of the following Annex I (Habitats Directive) habitats, listed as primary reasons for selection:
- Northern Atlantic wet heaths with *Erica tetralix*; and
 - European Dry Heaths.
- 5.2.7. Whilst the Ashdown Forest SAC is not designated on account of the presence of any Annex II species as a primary reason for selection of the site, the Annex II species Great Crested Newt is present as a qualifying feature but is not a primary reason for site selection.
- 5.2.8. The proximity of the site to the Ashdown Forest SPA/SAC means that the EC Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna (Habitats Directive) and the EC Directive on Wild Birds (the Birds Directive) are relevant in this instance. These two Directives are transposed in UK legislation through the Habitats Regulations (2010 - as amended).
- 5.2.9. The relevant Directives and UK legislation are discussed below.

Conservation Objectives

- 5.2.10. The Habitats Regulations require an assessment to be undertaken “in view of the site’s nature conservation objectives”. The Conservation Objectives for the Ashdown Forest SPA and Ashdown Forest SAC are detailed below (and are included at Appendix 3):

Ashdown Forest SPA

“Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

- *The extent and distribution of the habitats of the qualifying features*
- *The structure and function of the habitats of the qualifying features*
- *The supporting processes on which the habitats of the qualifying features rely*
- *The population of each of the qualifying features, and,*
- *The distribution of the qualifying features within the site”*

Ashdown Forest SAC

“Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring;

- *The extent and distribution of qualifying natural habitats and habitats of qualifying species*
- *The structure and function of the habitats of the qualifying natural habitats*
- *The structure and function (including typical species) of the habitats of qualifying species*
- *The supporting processes on which the habitats of the qualifying natural habitats and the habitats of qualifying species rely*
- *The population of qualifying species, and,*
- *The distribution of the qualifying species within the site.”*

Habitats and Birds Directives

- 5.2.11. Under the EC Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, commonly referred to as the Habitats Directive (Council Directive 92/43/EEC), Member States are required to take special measures to maintain the distribution and abundance of certain priority habitats and species (listed in Annexes I and II of the Directive). In particular, each Member State is required to designate the most suitable sites as SACs. All such SACs will form part of the Natura 2000 network under article 3(1) of the Habitats Directive.
- 5.2.12. Article 2(3) sets out that member states have a duty, in exercising their obligations under the Habitats Directive to:

“.. take account of economic, social and cultural requirements and local characteristics.”

- 5.2.13. Under the EC Directive on Wild Birds (the Birds Directive) (Council Directive 2009/147/EEC, previously 79/409/EEC), Member States are required to take special measures to conserve the habitats of certain rare species of birds (listed in Annex I of the Directive) and regularly occurring migratory birds. In particular, each Member State is required to classify the most suitable areas of such habitats as SPAs. This is designed to protect wild birds, and to provide sufficient diversity of habitats for all species so as to maintain populations at an ecologically sound level. All Bird Directive SPAs will also be part of the Natura 2000 network under article 3(1) of the Habitats Directive.
- 5.2.14. Thus, there is an obligation under the Habitats Directive and the Birds Directive for member states to designate sites before turning to measures for their protection.
- 5.2.15. The protection afforded to SACs/SPAs is delivered through Article 6 of the Habitats Directive. Article 6(2) requires member states to take appropriate steps to avoid the deterioration of natural habitats and disturbance of species for which the sites have been designated, in so far as the disturbance could be significant in relation to the objectives of the Directive. Article 6(3) and Article 6(4) require that a plan or project not directly connected with the management of the site, but likely to have a significant effect upon it, either individually or in combination with other plans or projects, must be subject to an appropriate assessment of its implications on the site, in view of the site's conservation objectives.
- 5.2.16. Having undertaken an appropriate assessment, the competent authority may agree to a plan or project where it can be concluded that it will not adversely affect the integrity of the site. In light of a negative assessment on the implications for the integrity of the site, Article 6(4) provides that the plan or project may still proceed where it can be demonstrated that there are no alternatives and there are imperative reasons of over-riding public interest as to why it must proceed. In the event that a plan or project is to proceed on the basis of imperative reasons of over-riding public interest, by direction of Article 6(4), compensatory measures must be put in place to ensure that the overall coherence of the Natura 2000 network is protected.

The Conservation of Habitats and Species Regulations 2017

- 5.2.17. The Conservation of Species and Habitats Regulations 2017, commonly referred to as the Habitats Regulations, transpose the requirements of the Habitats Directive and Birds Directive into UK legislation. The Habitats Regulations aim to protect a network of sites in the UK that have rare or important habitats and species in order to safeguard biodiversity.
- 5.2.18. Under the Habitats Regulations, Competent Authorities have a duty to ensure that all the activities they regulate have no adverse effect on the integrity of any of the Natura 2000 sites. Regulation 63 of the Habitats Regulations requires that:

“63 (1) A competent authority, before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project, which:-

- (a) *is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and*
- (b) *is not directly connected with or necessary to the management of that site,*

must make an appropriate assessment of the implications of the plan or project for that site in view of that site's conservation objectives.

...

63 (3) The competent authority must for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority specifies.

...

63 (5) In the light of the conclusions of the assessment, and subject to regulation 64, the competent authority may agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be).

63 (6) In considering whether a plan or project will adversely affect the integrity of the site, the competent authority must have regard to the manner in which it is proposed to be carried out or to any conditions or restrictions subject to which it proposes that the consent, permission or other authorisation should be given."

- 5.2.19. Regulation 63 of the Habitats Regulations therefore sets out a two-stage process. The first test is to determine whether the plan / project is likely to have a significant effect on the European site, the second test (if applicable) is to determine whether the plan / project will affect the integrity of the European site.

Consideration of Regulation 63

- 5.2.20. Mid Sussex District Council (MSDC) adopted a Strategic Access Management and Monitoring (SAMM) Interim Mitigation Strategy in August 2013, for any increase in residential dwellings within 7km of the Ashdown Forest SPA / SAC, which sets out SAMM tariffs for each dwelling, as set out below in Table 4:

Table 4: SAMM tariffs as set out within MSDC's SAMM Interim Mitigation Strategy

Number of Bedrooms	Local Tariff per Dwelling	Local Tariff per Affordable Dwelling (33% Reduction)
1	£1,404	£941
2	£2,146	£1,438
3	£2,628	£1,761
4+	£3,140	£2,104

- 5.2.21. As of the 1st January 2015, MSDC have stated that any planning applications for residential development within 7km of the Ashdown Forest SPA / SAC will need to provide financial contributions towards both the

SAMM tariff and SANG tariffs. Contributions towards the management and maintenance of the East Court and Ashplats Wood SANG are set out within Appendix D and E of the East Court and Ashplats Wood SANG Strategy (October 2013) and are reproduced in Table 5 below:

Table 5: SANG tariffs as set out within MSDC's East Court & Ashplats Wood SANG Tariff

Number of Bedrooms	SANG Tariff
1	£886
2	£1,275
3	£1,691
4+	£2,033

- 5.2.22. On the basis that a project follows this approach, the development proposals would not be likely to have a significant effect on the SPA / SAC, when considered either alone or in combination with other plans or projects. As such, the test at Regulation 61 (1) would not be failed and there is no need to undertake an Appropriate Assessment.
- 5.2.23. It is the applicant's intention to make contributions to the MSDC's SANG and SAMM tariffs, for mitigating effects on the SPA / SAC, and no further mitigation of avoidance measures would therefore be necessary.
- 5.2.24. In these terms, the Competent Authority (in this case MSDC) could grant a safe consent in light of information already before them, in so far as considering potential impacts on the Ashdown Forest SPA / SAC.
- 5.2.25. In addition, the Pre-submission Consultation Draft of the Ashurst Wood Neighbourhood Plan (2015-2031) includes one policy that relates directly to the site, Policy 6, which identifies the site as being suitable for allocation and as having the capacity for approximately 5 dwellings. As such, an appropriate assessment of the site must also be made by the Ashurstwood Neighbourhood Plan Steering Group in advance of the Ashurst Wood Neighbourhood Plan being adopted.
- 5.2.26. However, it should be noted that Policy WCS12 of the neighbouring Wealden District Council's Core Strategy Local Plan (February 2013), which stated that any net increase in residential dwellings within 7km of the Ashdown Forest SPA / SAC would require contributions to be paid towards the SANG and SAMM tariffs, was quashed in part on 10th July 2015 in a Court of Appeal decision (ref: CO/3796/13). Specifically, wording in relation to the 7km distance referenced above were removed from the policy.
- 5.2.27. Despite this partial quashing of Policy WCS12 of the Wealden District Council's Core Strategy Local Plan, an appropriate assessment of sites likely to have a significant effect on a European site is still required under Regulation 63 of the Habitats Regulations. As such, contributions under SANG and SAMM tariffs as prescribed by MSDC may still be arrived upon as appropriate mitigation, even in the absence of reference to the 7km distance.
- 5.2.28. Some key concepts of the Habitats Directive and Habitats Regulations have been clarified through case law. The most pertinent cases in relation to the

development proposals are Waddenzee, Sweetman, People over Wind and Holohan. These are discussed below.

Case Law

Waddenzee

- 5.2.29. In the 'Waddenzee' case (C-323/17) the European Court of Justice decided that an appropriate assessment is required for a plan or project where there is a probability or a risk that it will have a significant effect on the SPA. The Judgment states [at paragraph 3(a)] that:

"...any plan or project not directly connected with or necessary to the management of the site is to be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site, either individually or in combination with other plans or projects."

- 5.2.30. Hence the need for an appropriate assessment should be determined on a precautionary basis.

- 5.2.31. The Judgment gives clarity that the test of 'likely significant effect' should also be undertaken in view of the European sites conservation objectives. It is stated [at paragraph 3(b)] that:

"where a plan or project not directly connected with or necessary to the management of a site is likely to undermine the site's conservation objectives, it must be considered likely to have a significant effect on that site."

- 5.2.32. Paragraph 4 of the Judgment emphasises the requirement for the appropriate assessment to rely on objective scientific information:

"...an appropriate assessment...implies that, prior to its approval, all the aspects of the plan or project which can, by themselves or in combination with other plans or projects, affect the site's conservation objectives must be identified in the light of the best scientific knowledge in the field. The competent national authorities, taking account of the appropriate assessment of the implications...for the site concerned in the light of the site's conservation objectives, are to authorise such an activity only if they have made certain that it will not adversely affect the integrity of that site. That is the case where no reasonable scientific doubt remains as to the absence of such effects."

Sweetman

- 5.2.33. Further guidance in relation to the consideration of impacts in the light of the Habitats Regulations is provided in the Sweetman case (C-258/11). The case as set out by the Advocate General considered in detail the test for likely significant effect in paragraphs 50 and 51:

"50. The test which that expert assessment must determine is whether the plan or project in question has 'an adverse effect on the integrity of the site', since that is the basis on which the competent national authorities must

reach their decision. The threshold at this (the second) stage is noticeably higher than that laid down at the first stage. That is because the question (to use more simple terminology) is not 'should we bother to check' (the question at the first stage) but rather 'what will happen to the site if this plan or project goes ahead; and is that consistent with "maintaining or restoring the favourable conservation status" of the habitat or species concerned'...

51. It is plain, however, that the threshold laid down at this stage of Article 6(3) may not be set too high, since the assessment must be undertaken having rigorous regard to the precautionary principle. That principle applies where there is uncertainty as to the existence or extent of risks. The competent national authorities may grant authorisation to a plan or project only if they are convinced that it will not adversely affect the integrity of the site concerned. If doubt remains as to the absence of adverse effects, they must refuse authorisation."

- 5.2.34. The Court of Justice of the European Union (CJEU) agreed with the Advocate General's conclusions, and held:

"40. Authorisation for a plan or project, as referred to in Article 6(3) of the Habitats Directive, may therefore be given only on condition that the competent authorities – once all aspects of the plan or project have been identified which can, by themselves or in combination with other plans or projects, affect the conservation objectives of the site concerned, and in the light of the best scientific knowledge in the field – are certain that the plan or project will not have lasting adverse effects on the integrity of that site. That is so where no reasonable scientific doubt remains as to the absence of such effects."

- 5.2.35. Hence a plan or project may be authorised only if no reasonable scientific doubt remains as to the absence of effects. Reasonable scientific doubt will exist if the evidence is not sufficiently conclusive, or if there are gaps in the information.

Dilly Lane

- 5.2.36. The Secretary of State's decision to allow an appeal in relation to applications for a total of 170 new homes on a greenfield site off Dilly Lane, Hartley Witney was challenged in High Court by Hart District Council. The legal challenge was made on the grounds that the Secretary of State had erred in departing from her Inspector's conclusions as to the effects on the Thames Basin Heaths SPA.

- 5.2.37. A key issue for the case was whether mitigation measures should be disregarded when assessing whether the project would have a significant effect on the SPA. Mr Justice Sullivan (subsequently Lord Justice Sullivan, now retired) ruled in favour of the Secretary of State after concluding that there was no absolute legal rule that mitigation measures should be disregarded during the first stage – 'the likely significant test':

"55. The competent authority is not considering the likely effect of some hypothetical project in the abstract. The exercise is a practical one which requires the competent authority to consider the likely effect of the particular project for which permission is being sought. If certain features (to use a neutral term) have been incorporated into that project, there is no sensible

reason why those features should be ignored at the initial, screening, stage merely because they have been incorporated into the project in order to avoid, or mitigate, any likely effect on the SPA.”

People over Wind

5.2.38. The CJEU in *People over Wind v Coillte Teoranta* (case C-323/17), released on 12 April 2018, has revoked the position adopted under the Dilly Lane Decision that it was right and proper for mitigation or avoidance measures, which formed a feature of a plan / project, to be viewed as integral to the plan / project and not excluded when considering the likely significance test at Regulation 63(1).

5.2.39. The decision by the CJEU ruled that:

“Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that, in order to determine whether it is necessary to carry out, subsequently, an appropriate assessment of the implications, for a site concerned, of a plan or project, it is not appropriate, at the screening stage, to take account of the measures intended to avoid or reduce the harmful effects of the plan or project on that site.”

5.2.40. In accordance with this ruling, avoidance or mitigation measures cannot be considered at the first stage of the test (the ‘Likely Significant Effect’ stage) and can only be considered at the Appropriate Assessment stage.

5.2.41. This ruling conflicts with and overrules a long line of domestic case law (notably the Dilly Lane Decision (oao) *Herts District Council v. Secretary of State for Communities and Local Government and Others* [2008] EWHC 1204 (Admin)), as summarised above, which previously held that it is appropriate to consider such measures at the ‘Likely Significant Effect’ stage.

5.2.42. The approach adopted in *People over Wind* was also confirmed by the ECJ in *ESB Wind Developments Ltd* (Case C-164/17), which was delivered on 25 July 2018.

5.2.43. As such, even where a strategic solution has been identified to mitigate/avoid potential effects on a European site, such as “*Mitigation Strategy for Salisbury Plain*” and as would be the case upon adoption of the Trowbridge Bat Mitigation Strategy, technically the *People Over Wind* ruling now requires an Appropriate Assessment of development within the specified zone of influence to be conducted by the Competent Authority.

Holohan Judgment

5.2.44. A recent judgment with regard to Article 6(3) of the Habitats Directive sets out that an Appropriate Assessment must “*catalogue the entirety of the habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site.*”

- 5.2.45. **Non-statutory Sites:** There are no non-statutory designations of conservation value within the site. The nearest non-statutory designated site is Birchgrove Fishponds Local Wildlife Site (LWS) that lies approximately 0.85km north of the site and this is designated for its lakes, ponds and semi-natural woodlands.
- 5.2.46. Given the distance of Birchgrove Fishponds LWS from the site and the habitats that separate them (roads, arable land and existing residential development) it is not considered that there will be any adverse impacts (either direct or indirect) to this LWS as a consequence of any development at the site.
- 5.2.47. A number of additional statutory and non-statutory designated sites are located in the wider area, but no significant effects are anticipated.
- 5.2.48. In summary, it is not considered that any detrimental effects (direct or indirect) will arise as a result of the proposals at the site to any statutory or non-statutory site of nature conservation interest.

Habitats

- 5.2.49. The habitat within the site are generally not considered to be of any ecological importance being dominated by managed grassland. The hedgerows and tree belt are of some relatively greater ecological value in the context of the site.

Species-poor Semi-improved Grassland

- 5.2.50. The grassland within the site is considered to be of some ecological value, comprising mainly common and widespread species. Although there is a low abundance of indicator species along the margins of the fields.
- 5.2.51. The majority of the grassland is to be lost to the proposed development, although some areas will be retained as open space.
- 5.2.52. **Mitigation and Enhancements.** To offset the loss of grassland, the areas of open space will be managed as ecology areas and will support species-rich wildflower grassland and subject to a suitable management regime to increase the floristic diversity of the site accordingly. It is recommended Emorsgate's Standard General Purpose Meadow Mixture EM2 or similar is utilised. As an enhancement, it is recommended that the proposed residential lawns are created with a flowing lawn mix (Emorsgate Flowing Lawn Mixture EL1 or similar), to further increase the floristic diversity of the site.

Tree Belt & Hedgerows

- 5.2.53. The hedgerows and tree belt within the site offer suitable foraging and nesting opportunities for birds and foraging and dispersal / navigational opportunities for wildlife.
- 5.2.54. The hedgerows and tree belt are to be retained and safeguarded as part of the development proposals, although minor losses might occur where development is in close proximity.

- 5.2.55. **Mitigation and Enhancements.** It is recommended that the retained hedgerows and tree belt within the site are fenced at canopy width (as required) according to the current British Standards before construction work commences, to protect roots from compaction. Fences should remain in place until construction work is complete within the vicinity of these habitats. Should any boundary hedgerows need to be unexpectedly removed, it is recommended that they are re-planted with a mixture of native species, once works are undertaken.
- 5.2.56. The proposed development includes new hedgerow and tree planting which will also offset any minor loss of the existing hedgerows and maintain foraging areas, nesting habitat and commuting routes for birds and bats. It is recommended that native species or those known to benefit wildlife are utilised within the new hedgerows and landscape planting.

5.3. Faunal Evaluation

Bats

- 5.3.1. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”). These include provisions making it an offence to:
- Deliberately kill, injure or take (capture) bats;
 - Deliberately disturb bats in such a way as to be likely to significantly affect:-
 - (i) the ability of any significant group of bats to survive, breed or rear or nurture their young; or to hibernate; or
 - (ii) to affect significantly the local distribution or abundance of the species concerned;
 - Damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
- 5.3.2. While the legislation is deemed to apply even when bats are not in residence, Natural England guidance suggests that certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence provided these do not damage or destroy the roost.
- 5.3.3. The words ‘deliberately’ and ‘intentionally’ include actions where a court can infer that the defendant knew ‘the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 5.3.4. The offence of damaging (making it worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
- 5.3.5. Licences can be granted for development purposes by an ‘appropriate authority’ under Regulation 55 (e) of the Habitats Regulations. In England, the ‘appropriate authority’ is Natural England (the government’s statutory advisors on nature conservation). European Protected Species licences permit activities that would otherwise be considered an offence.

- 5.3.6. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:
1. The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 2. There must be no satisfactory alternative; and
 3. The favourable conservation status of the species concerned must be maintained.
- 5.3.7. Licences can usually only be granted if the development is in receipt of full planning permission (and relevant conditions, if any, discharged).
- 5.3.8. Seven species of bat are Priority Species, these are Barbastelle *Barbastella barbastellus*, Bechstein's *Myotis bechsteinii*, Noctule, Soprano Pipistrelle, Brown Long-eared *Plecotus auritus*, Greater Horseshoe *Rhinolophus ferrumequinum*, and Lesser Horseshoe *Rhinolophus hipposideros*.
- 5.3.9. **Site Usage.** No trees within the site were recorded as having the potential to support roosting bats and the trees are to be retained as part of the proposed development. Although should any trees need to be removed, it is recommended as a precaution that an aerial tree climbing survey is carried out to check for roosting bats.
- 5.3.10. The majority of suitable foraging and commuting habitat is to be retained and buffered from the proposed development and measures to avoid any additional lighting so as to maintain dark corridors can be incorporated if necessary.
- 5.3.11. Retention of the hedgerows and tree belt will provide continued opportunities within the site for foraging and navigating bats. New landscape planting and the recommended creation of species-rich grassland within areas of public open space will provide significantly enhanced foraging opportunities for bats.
- 5.3.12. If deemed necessary, a sympathetic lighting regime associated with the new proposals could be used to minimise light spillage into key areas, such as the hedgerows, in order to retain the suitable foraging and navigation opportunities for bats. A sympathetic lighting regime could be achieved through the use of warm white LED lights, which produce less light spillage than other types of lighting, and have no low / no UV content (or UV-filtered lights). In addition, the spillage of the light can be reduced further through use of low-level lights, the employment of lighting 'hoods' which will direct light below the horizontal plane, preferably with no upwards tilt and the use of short-timer motion sensors for any external lighting.
- 5.3.13. As an enhancement, it is recommended that bat boxes, such as Schwegler bat boxes (see Appendix 3 for suitable examples), are erected on suitable retained trees. This measure will provide enhanced roosting opportunities within the site.

Reptiles

- 5.3.14. **Legislation.** All six British reptile species receive a degree of legislative protection that varies depending on their conservation importance.

- 5.3.15. Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis* receive 'full protection' under the Wildlife and Countryside Act 1981 as well as protection under the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"). These receive protection from:
- Killing, injuring, taking;
 - Possession or control (of live or dead animals, their parts or derivatives);
 - Damage to, destruction of, obstruction of access to any structure or place used for shelter or protection;
 - Disturbance of any animal occupying such a structure or place;
 - Selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).
- 5.3.16. Common Lizard, Grass Snake, Slow Worm and Adder *Vipera berus* are only 'partially protected' under the Wildlife and Countryside Act 1981 (as amended) and as such only receive protection from:
- Deliberate killing and injuring;
 - Being sold or other forms of trading.
- 5.3.17. The legislation relevant to common reptiles therefore protects the species, but not their habitat and any works that avoid killing or injuring any of these species, should ensure that an offence is avoided.
- 5.3.18. **Site Usage.** The majority of the site is managed regularly through cutting, although the field margins receive less management and provide limited suitable reptile habitat. The surveys undertaken along the field margins recorded a low population of Slow Worm and Common Lizard.
- 5.3.19. **Mitigation and Enhancements.** It is recommended a habitat manipulation exercise is undertaken along the margins of the field and this should only be carried out during the active season (April-September but extended to March and October depending upon prevailing weather).
- 5.3.20. Habitat manipulation involves controlled cutting of suitable habitat in a directional manner to persuading reptiles present to move towards suitable retained habitat or suitable off-site habitats. This would ensure no reptiles (if present in working areas) are injured or killed during works.
- 5.3.21. The areas of open space will be planted with wildflower grassland mix and managed as tussocky grassland to provide continued opportunities for reptiles post development. The grassland should be left uncut or only cut infrequently on a rotational basis (with one third cut in any one year) to prevent dominance of scrub, and the grassland should be cut early or late in the season when reptiles would be in hibernation.
- 5.3.22. It is also recommended that refuges, such as log piles are created during vegetation clearance to provide additional shelter and hibernation opportunities for reptiles, e.g. within tussocky grassland and adjacent to the hedgerows.

Birds

- 5.3.23. **Legislation.** Section 1 of the Wildlife and Countryside Act 1981 (as amended) is concerned with the protection of wild birds, whilst Schedule 1 lists species that are protected by special penalties. All species of birds receive general protection whilst nesting.
- 5.3.24. **Site Usage.** The hedgerows and tree belt within the site offer suitable foraging and nesting opportunities for a number of common birds.
- 5.3.25. **Mitigation and Enhancements.** The development proposals will retain the majority of the existing foraging and nesting opportunities for birds. The provision of new landscape planting will provide enhanced foraging and nesting opportunities for a range of bird species. It is recommended that berry/fruit-bearing species are incorporated to provide further seasonal foraging resources for birds.
- 5.3.26. It is recommended that clearance of any suitable nesting vegetation, including tree felling, be undertaken outside the bird nesting season (March to July inclusive) to avoid any potential offence.
- 5.3.27. Should the above timing constraints conflict with any timetabled works, it is recommended that works commence only after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present. If nesting birds are found to be present during checks then clearance would need to be delayed until young have fledged.
- 5.3.28. Simple enhancement measures could ensure the ornithological interest at the site is increased. For example, the erection of nest boxes on suitable retained trees. Using nest boxes of varying designs would maximise the species complement attracted to the site (see Appendix 4 for suitable examples).

Other Mammals

- 5.3.29. **Site Usage.** The scrub and hedgerows provide limited suitable habitat for Hedgehogs (a priority species).
- 5.3.30. **Mitigation and Enhancements.** The retention of the majority of existing hedgerows together with the recommended creation of new areas of species-rich grassland within the site and the planting of new trees and hedgerows would provide new and enhanced opportunities for Hedgehogs.

Invertebrates

- 5.3.31. **Site Usage.** Given the habitats present it is likely an assemblage of common invertebrate species would be present within the site, but there is no evidence to suggest any notable / protected invertebrates would be present. Small Heath has been recorded in the local area and the site does provide suitable habitat for this species (albeit this species would not be reliant on the site).
- 5.3.32. **Mitigation and Enhancements.** The new areas of wildflower grassland within the site and the planting of new trees and hedgerow would provide new and enhanced opportunities for a range of invertebrates.

- 5.3.33. The recommended creation of log piles from cleared vegetation sections as part of the proposals, would provide suitable opportunities for saproxylic invertebrates. The implementation of other potential enhancement measures recommended above would also likely provide knock-on benefits for invertebrates.

6. PLANNING POLICY CONTEXT

6.1. The planning policy framework that relates to nature conservation at the site is issued nationally through the National Planning Policy Framework, and locally through the Mid Sussex District Local Plan. The proposed development will be judged in relation to the policies contained within these documents.

6.2. National Policy

National Planning Policy Framework

- 6.2.1. Guidance on national policy for biodiversity and geological conservation is provided by the NPPF, published in March 2012, revised on 24 July 2018 and updated on 19 February 2019. It is noted that the NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA / ODPM, 2005) accompanying the now-defunct Planning Policy Statement 9 (PPS9).
- 6.2.2. The key element of the NPPF is that there should be “a presumption in favour of sustainable development” (paragraphs 10 to 11). It is important to note that this presumption “does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site” (paragraph 177). ‘Habitats site’ has the same meaning as the term ‘European site’ as used in the Habitats Regulations 2017.
- 6.2.3. Hence the direction of Government policy is clear; that is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European site, if it has been shown that there will be no adverse effect on that designated site as a result of the development in prospect
- 6.2.4. A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 170).
- 6.2.5. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.
- 6.2.6. Paragraphs 174 to 176 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential SPAs, possible SACs, listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the provision for the refusal for developments resulting in the loss or deterioration of ‘irreplaceable’ habitats – unless there are ‘wholly exceptional reasons’ (for instance, infrastructure projects where the

public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

- 6.2.7. National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

6.3. **Local Policy**

Mid Sussex District Local Plan

- 6.3.1. The Mid Sussex District Local Plan was adopted in March 2018. This document contains three policies that are of relevance to nature conservation. Policy DP17 is concerned with the protection of Ashdown Forest SPA / SAC. Policy DP37 is concerned with the protection of trees, hedgerows and woodland, while DP38 is concerned with the protection and enhancement of biodiversity, including trees, ecological corridors and designated sites.

6.4. **Discussion**

- 6.4.1. It is considered that any development, following the recommendations in this report, would fully accord with national and local policy and will avoid any significant impacts on any designated sites for nature conservation, trees, hedgerows and other natural features. The potential presence of protected species is acknowledged and measures to safeguard these put forward, where necessary, whilst those habitats of ecological importance have been identified and measures recommended to ensure their protection.

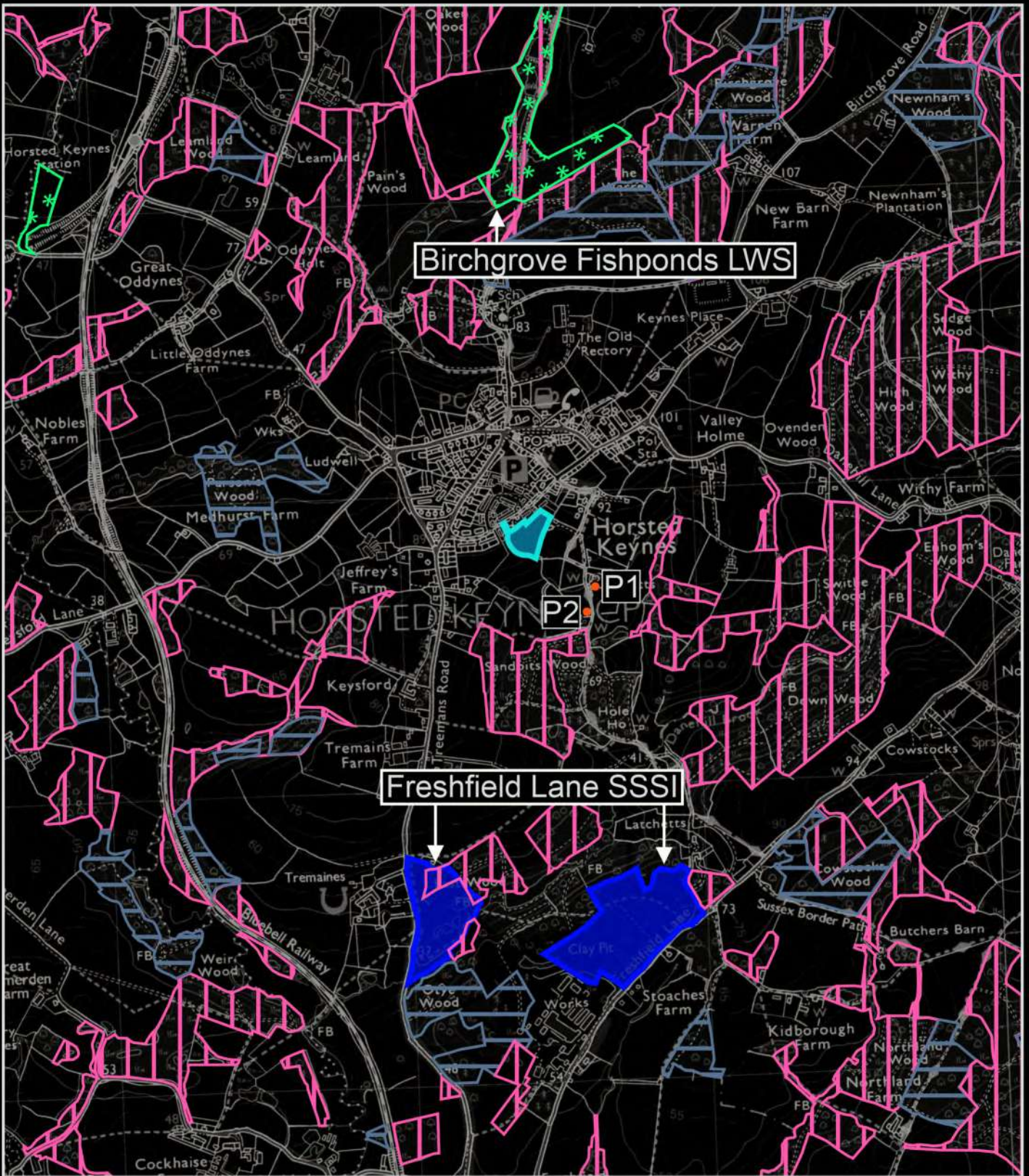
7. SUMMARY AND CONCLUSIONS

- 7.1. Ecology Solutions was commissioned by Rydon Homes Ltd in February 2019 to undertake an Ecological Assessment of land south of St. Stephens Church, Hamsland, Horsted Keynes, West Sussex.
- 7.2. The proposals for the site are for residential housing with associated infrastructure and landscape planting.
- 7.3. A habitat survey was carried out in March 2019, June 2019 and September 2020 in order to ascertain the general ecological value of the site and to identify the main habitats and associated plant species. Specific surveys were undertaken for bats, Badgers, Great Crested Newts and reptiles in 2019 and 2020.
- 7.4. There are not considered to be any significant adverse effects on any statutory and non-statutory sites of nature conservation interest from the development proposals.
- 7.5. No trees within the site were recorded as having the potential to support roosting bats and the trees and hedgerows will be retained as part of the proposed development. It is recommended, as a precaution that an aerial tree climbing survey is carried out to check for roosting bats, should any trees be unexpectedly removed. If deemed necessary, a sensitive lighting regime post-development could be used to ensure dark corridors are retained for bats along the hedgerows and tree belt.
- 7.6. Retention of the existing hedgerows, together with new tree planting, and open space within the development proposals will provide continued and enhanced foraging and navigational opportunities for bats and birds. It is recommended that new planting consists of species of known value to wildlife. The inclusion of bat and bird boxes within the site will provide new roosting opportunities for bats.
- 7.7. Safeguards for nesting birds during vegetation clearance are recommended.
- 7.8. The site margins support a low population of Slow Worm and Common Lizards. It is recommended that a habitat manipulation exercise is undertaken prior to the removal of the grassland margins, to avoid any possible effect on reptiles. The proposed development includes areas of open space, which will be managed as tussocky grassland to provide suitable habitat for reptiles post development.
- 7.9. In conclusion, through the implementation of the safeguards and recommendations set out within this report, it is considered that the proposals accord with planning policy with regard to nature conservation at all administrative levels. In addition, it is considered that the recommendations outlined would create a net enhancement to biodiversity post development.







PLANS

PLAN ECO1

Site Location & Ecological Designations



KEY:

-  SITE
-  SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
-  LOCAL WILDLIFE SITE (LWS)
-  ANCIENT AND SEMI-NATURAL WOODLAND
-  ANCIENT (REPLANTED) WOODLAND
-  POND



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8244: HORSTED KEYNES

PLAN ECO1: SITE LOCATION AND
ECOLOGICAL DESIGNATIONS

Rev: A
Sep 2020

PLAN ECO2

Ecological Features



- KEY:**
- SITE BOUNDARY
 - SPECIES-POOR SEMI-IMPROVED GRASSLAND
 - HEDGEROW
 - DECIDUOUS TREE
 - MAMMAL PATH
 - MAMMAL PUSHTHROUGH
 - FENCE




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**8244: HORSTED KEYNES,
WEST SUSSEX**

PLAN ECO2:
ECOLOGICAL FEATURES

Rev. A
Oct 2020

APPENDICES

APPENDIX 1

Site Layout



Pudon Homes Ltd
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 Station Road
 Forest Row
 East Sussex
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 T 01342 82351
 E info@pudon.co.uk

Rev. Description
 Date By

Land South of St. Stephens Church
 Hamsland
 Horsted Keynes
 S115 Layout
 Drawing No. 1044-FA-02
 Date: November 2020
 Drawn By: MAH
 Scale: 1:500 @ A1
 Rev:



APPENDIX 2

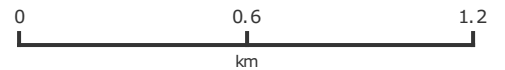
Information obtained from MAGIC



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Legend

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



Projection = OSGB36

xmin = 533800

ymin = 126200

xmax = 542600

ymax = 130600

Map produced by MAGiC on 21 October, 2020.
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APPENDIX 3

Suitable Examples of Bat Boxes

Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box.

The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.

Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminum nails.



1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)

Width: 27cm

Height: 43cm

Weight: 8.3kg

2FN Bat Box

A large bat box featuring a wide access slit at the base as well as an access hole on the underside. Particularly successful in attracting Noctule and Bechstein's bats.

Woodcrete construction, 16cm diameter, height 36cm.



2F Bat Box

A standard bat box, attractive to the smaller British bat species. Simple design with a narrow entrance slit on the front.

Woodcrete construction, 16cm diameter, height 33cm.



APPENDIX 4

Suitable Examples of Bird Boxes

Bird Boxes

Schwegler bird boxes have the highest rates of occupation of all types of box. They are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.



1B Bird Box

This is the most popular box for garden birds and appeals to a wide range of species. The box can be hung from a branch or nailed to the trunk of a tree with a 'tree-friendly' aluminium nail.

Available in four colours and three entrance hole sizes. 26mm for small tits, 32mm standard size and oval, for redstarts.

2H Bird Box

This box is attractive to spotted flycatcher and black redstarts.

Best sited on the walls of buildings with the entrance on one side.



2M Bird Box

A free-hanging box offering greater protection from predators. Supplied complete with hanger which loops and fastens around a branch.





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