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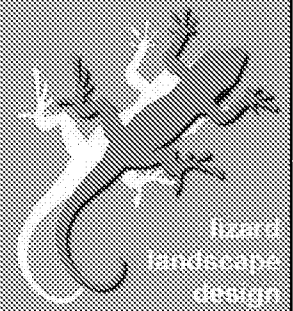
**Land at Lake Lane, Barnham,
West Sussex**

***Preliminary Ecological Appraisal Report
– Protected Species Assessment***

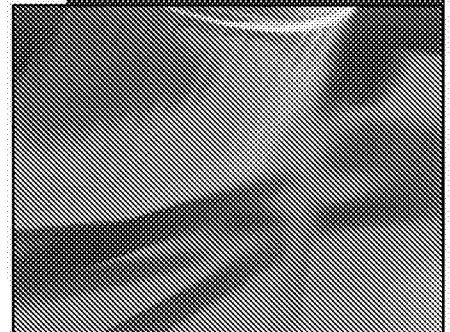
Approved By: Joe Jackson
Signed:
Position: Principal
Date: 29th November 2016

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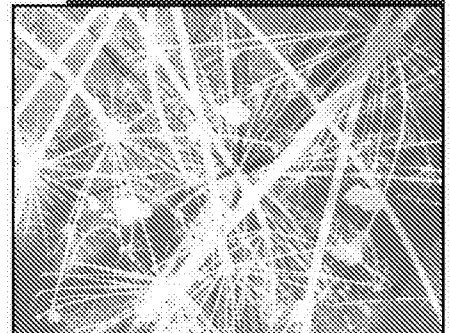
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Landscape Architecture

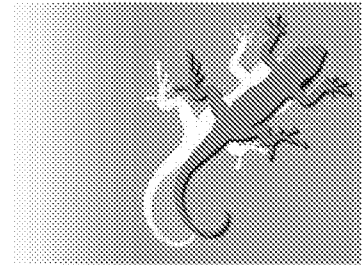


Environmental Design



Landscape Planning

Lizard Landscape Design



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SUMMARY

Seaward Properties Limited has commissioned Lizard Landscape Design and Ecology to undertake a preliminary ecological appraisal and protected species assessment of the land proposed for development at Lake Lane, Barnham, West Sussex (*Grid Reference: SU 965 047– hereafter referred to as 'the site'*). A preliminary ecological appraisal (PEA) was undertaken of the site on 9th September 2015 to appraise the existing ecological resource within the site and the surrounding area.

The ecological survey conducted during September 2015 has identified habitats of improved grassland; tall ruderal and dense scrub with scattered trees and tree lines to the site boundaries. Areas directly affected by the proposed development are limited to areas of tall ruderal, scrub and grassland. The matrix of dense scrub, tall ruderal, grassland and tree lines provides optimal habitat for a range of UK reptile species. The potential for reptiles to be present on the site is further augmented by confirmed populations of grass snake, slow worm and common lizard to the south of the development area. A detailed reptile population survey of the site area is required. 35 no. artificial refugia were laid on site on 16th September 2015. 7 no. site visits will be conducted following a settling period. All site visits will be undertaken in suitable weather conditions (*10-18°C, dry, sunny, calm*).

The pond to the north of the site within an adjacent residential garden is considered to offer 'average' habitat suitability to support a population of great crested newts. Ditches surrounding the site offer further breeding and commuting opportunities, while the dense vegetation on site offers good terrestrial habitat.

The ditch system surrounding the site was previously surveyed in spring 2012. No great crested newts were found during these surveys. It is considered prudent to re-survey this area to provide up-to-date survey data; however, it is not anticipated that a large great crested newt population would be identified. If any protected species of amphibian are identified, a suitable mitigation strategy would be designed and employed prior to construction beginning on site.

Trees which are proposed for removal were inspected and found to offer 'negligible' bat roost potential. Mature tree lines should be retained within the development proposals with any excessive light spill on these areas avoided to retain existing bat foraging areas. No further surveys with regard to bats are considered necessary on this site.

1.0 INTRODUCTION

- 1.1 Seaward Properties Limited has commissioned Lizard Landscape Design and Ecology to undertake a preliminary ecological appraisal and protected species assessment of the land proposed for development at Lake Lane, Barnham, West Sussex (*Grid Reference: SU 965 047– hereafter referred to as 'the site'*).
- 1.2 A preliminary ecological appraisal (*PEA*) was undertaken of the site on 9th September 2015 to appraise the existing ecological resource within the site and the surrounding area. The PEA was comprised of a baseline survey conforming broadly to the *JNCC Ecology Phase 1 Habitat Survey* protocol to identify the existing habitats. In addition, a protected species assessment was undertaken to identify the potential for European and nationally protected species within and adjacent to the site.
- 1.3 The field survey data and analysis contained within this report was undertaken and prepared by Catherine O'Reilly (*BSc; Project Ecologist; Lizard Landscape Design and Ecology*). The preliminary ecological appraisal report has been review by Joe Jackson (*BA (Hons) LA DipLA LMLI; Director; Lizard Landscape Design and Ecology*).

Site Information

- 1.4 The development site is located due south of Lake Lane, towards the eastern edge of Barnham, West Sussex. The site is approximately 8.00 metres above sea level and measures approximately 0.40 hectares. The site is comprised in the majority by tall ruderal, scrub and tree lines with a central gravel access drive.
- 1.5 The site boundaries are edged by Lake Lane to the north; residential properties to the west and horticultural glasshouses to the south; and the eastern boundary of the site is abutted by amenity grassland. Soil on site is described as loamy with naturally high groundwater. There are no areas of *Ancient Woodland* or woodland highlighted on *The National Inventory of Woodland and Trees* within the development area or immediately adjacent to the site area.

Surrounding Landscape

- 1.6 The site is located within the village of Barnham, one of a string of villages and small towns located between Chichester and Littlehampton within the Sussex countryside. The village of Barnham extends for approximately 1.0 kilometre to the west of the site, while land to the south is dominated by horticultural developments for at least 400.00 metres. Similar developments exist to the north-east of the site area; however, land directly to the north opens to a mixture of farmland and woodland approximately 50.0 metres from the site boundary.
- 1.7 The surrounding landscape is formed of a matrix of pastoral and arable farmland delineated by hedgerows and small pockets of woodland. The nearest patch of woodland can be found 100.00 metres north (*4.4 hectares of broadleaved woodland*). This woodland is listed on *The National Inventory of Trees and Woodland* and encompasses 1.07 hectares of ancient semi-natural woodland.

Development Proposals

- 1.8 The development proposals consist of the construction of 5 no. new residential units on the site. This survey has been undertaken on the assumption that development proposals would incorporate a large percentage of the available site area; to include associated residential properties; hard standing and amenity / garden areas.

2.0 SCOPE OF THE SURVEY

- 2.1 The aim of the preliminary ecological appraisal survey has been:
- *To identify and display the main habitat types and plant communities;*
 - *To provide a species list for the major habitats;*
 - *To identify habitats with potential for protected species; and;*
 - *To provide recommendations for surveys of protected species and / or ecological enhancement / compensation.*
- 2.2 This report establishes the potential ecological resource within the site and outlines where any ecological constraints may occur.

3.0 METHODOLOGY

- 3.1 A preliminary ecological appraisal was undertaken on 9th September 2015 and the site subjected to an ecology phase 1 habitat survey using guidelines set out in the *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (JNCC, 2003)*. This has resulted in a Site Habitat Plan in *Figure No. 01*; Species Lists for Habitat Parcels in *Table No. 01*; and Target Notes in *Table No. 02*.
- 3.2 Habitats within the site were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the ecology phase 1 habitat survey methodology is presented in *Section 4.0*.
- 3.3 Due to the field survey consisting of only one site visit certain species, particularly some of the flowering plants, may not have been visible or may have been otherwise inconspicuous at the time of survey and hence overlooked. These are accepted constraints associated with the standard ecology phase 1 habitat survey methodology.
- 3.4 Habitats within and immediately adjacent to the site area were assessed for their potential for uncommon and protected fauna including mammals, birds, reptiles and amphibians. This involved identifying features which may be used by protected species, potential foraging areas and other signs of use. Stones, dead wood and rubble were turned over and any dug holes studied for recent activity by mammals. Water bodies were recorded wherever possible within 500.0 metres of the proposed development.
- 3.5 The results are summarised and accompanied in large part by photographic evidence contained in *Appendix No.01 – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

4.0 RESULTS

4.1 Desk Study – Background information

Designated Sites and Habitats

- 4.1.1 The following section outlines the ecological context of the development site, describing any designated nature conservation sites in the vicinity of the development site. The following designated sites and habitats are not necessarily representative of the existing site's ecology, but are indicative of the ecological context of the surrounding area; a factor that may be important when assessing the presence / absence potential of certain species groups.

Statutory Protected Sites

- 4.1.2 The site is not located within any statutory protected area, nor are there any statutory protected areas within 2.0 kilometres of the development site. The nearest designated area is *The South Downs National Park*, located 2.6 kilometres north of the site. *The South Downs* are the newest *National Park* having been officially designated in April 2010. The area designated measures approximately 1600km² and has been classified because of the uniquely biodiverse landscape that it represents, as evidenced by the 86 no. *Sites of Special Scientific Interest (SSSI)* which lie within its boundary. The purpose of *National Parks* is to conserve and enhance natural beauty, wildlife and cultural heritage in addition to promoting understanding and enjoyment of the special qualities of *National Parks* by the public. The intervening distance and discrepancy between habitats suggest the development proposals are unlikely to impact this statutory protected area.

Non-Statutory Protected Sites

- 4.1.3 *Sites of Nature Conservation Interest (SNCI)* are non-statutory designations given to areas of high conservation value locally. Despite being non-statutory, SNCIs are still recognised by local planning authorities in their policies and plans. There are no SNCIs located within 2.0 kilometres of the development site. The closest designated areas are described below.
- 4.1.4 *Binstead Woods Complex SNCI* is located 2.6 kilometres north-east of the site. This site contains a mixture of *Ancient Woodland*, conifer plantation and species-rich pasture with rich and diverse flora.

- 4.1.5 *Rewell Wood Complex SNCI* is a large *Ancient Woodland* complex with a diversity of habitats and wide glades that support rich flora and butterfly fauna. This SNCI is located 2.2 kilometres north of the development site.
- 4.1.6 The intervening distance and the discrepancy between the habitats strongly suggest the development proposals would not impact on these non-statutory protected areas.

UK Priority Habitats

- 4.1.7 Within 2.0 kilometres of the site there are UK Priority Habitats of *deciduous woodland; woodpasture and parkland; traditional orchard; and coastal and floodplain grazing marsh*. There are no areas identified within *The National Inventory of Woodland and Trees* in the area surrounding the site.

UK Priority Species

- 4.1.8 Species Action Plans (SAPs) relevant within Sussex include terrestrial mammals, such as common pipistrelle bats (*Pipistrellus pipistrellus*); terrestrial herptiles, such as the common lizard (*Zootoca vivipara*); slow worm (*Anguis fragilis*); and great crested newt (*Triturus cristatus*). All these species have previously been recorded within 5.0 kilometres of the site area. Populations of slow worm, grass snake and common lizard have been recorded on land directly adjacent the site to the south.
- 4.1.9 Adders, grass snakes, common lizards and slow worms are protected against killing, injury or sale under *The Wildlife and Countryside Act 1981*. Developments that could predictably kill or injure reptiles could result in an offence. Furthermore, these species are targets of UK and Local Biodiversity Action Plans and listed as *Species of Principle Importance* under *Section 41 of The Natural Environment and Rural Communities Act 2006*. This obligates local authorities to have regard to the purpose of conserving biodiversity with particular emphasis on targeted species.
- 4.1.10 Previous survey work undertaken by Lizard Landscape Design and Ecology in 2008 and 2012 revealed low populations of slow worm, grass snake and common lizard on land immediately to the south of the development site.

- 4.1.11 All species of bat and their roosts are protected under *Regulation 41 of The Conservation of Habitats and Species Regulations 2010* and *Section 9 of The Wildlife and Countryside Act 1981*. It is an offence for anyone intentionally to kill, injure or handle a bat, to possess a bat (*whether live or dead*), disturb a roosting bat, or sell or offer a bat for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by bats for shelter, whether they are present or not.
- 4.1.12 Bat records include 8 no. bat species (*the UK has a total of 17 no. species*) found within 5.0 kilometres of the site at Barnham. Species include serotine bat (*Eptesicus serotinus*); brown long-eared bat (*Plecotus auritus*); Bechstein's bat (*Myotis bechsteinii*); whiskered bat (*Myotis mystacinus*); natterer's bat (*Myotis nattereri*); and noctule bat (*Nyctalus noctula*). Pipistrelle bats are noted throughout the area, and from the surveyor's own experience, a large colony of common pipistrelle bats (*Pipistrellus pipistrellus*) is known to be present within a Monterey pine tree (*Pinus radiata*) approximately 400.00 metres to the south of the site.
- 4.1.13 Great crested newts are fully protected under *Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)* and *Schedule 2 of The Conservation of Habitats and Species Regulations 2010 (as amended)*, making it a European Protected Species. Within 1.0 kilometre of the site, there are 2 no. records for great crested newts; 4 no. records of toads, 3 no. of which are from 2002. The ditch system surrounding the site was previously surveyed in spring 2012. No great crested newts were found during these surveys; however, low populations of smooth and palmate newts were found locally.

4.2 Field Survey

- 4.2.1 The following habitats and features were recorded within the development site and the extended survey area. The general site character has been described along with a brief description of the habitat's physical characteristics. These are shown on the *Site Habitat Plan* in *Figure No. 01*; *Species List for Site Habitats* *Parcels* are listed in *Table No. 01*; and *Target Notes* are listed in *Table No. 02*.

4.2.2 Habitats within the development site area include:

- *Improved Grassland*;
- *Tall Ruderal*;
- *Dense / Continuous Scrub*;
- *Scattered Trees*;
- *Hedge / Tree Lines*.

Site Description (Refer to Appendix No. 01 – Site Photographs)

- 4.2.3 The main body of the site is formed of disused land dominated by scrub and tall ruderal vegetation. The vegetation was tall (> 1.5 metres) and dense at the time of the survey, severely limiting access to much of the site.
- 4.2.4 The site is divided by an access driveway which runs north-south, while a public footpath runs along the southern section of the site. Dense bramble (*Rubus fruticosus agg.*) scrub dominates large portions of the site, particularly to the eastern sections. Tall ruderal vegetation forms much of the western section of the site as well as the marginal areas surrounding the public footpath and access driveways. Common nettle (*Urtica dioica*) dominates these areas, interspersed with hedge bindweed (*Calystegia sepium*); hoary willowherb (*Epilobium parviflorum*); fleabane (*Pulicaria dysenterica*); and creeping thistle (*Cirsium arvense*).
- 4.2.5 Vegetation to the access drive and footpath are comprised of typical improved grassland species including creeping buttercup (*Ranunculus repens*); white clover (*Trifolium repens*); and curled dock (*Rumex crispus*). Vegetation within these areas is of a far shorter length than the rest of the site (< 20 centimetres).
- 4.2.6 The site is enclosed by tree lines to all aspects while understory vegetation is formed of typical species such as red campion (*Silene dioica*); lords and ladies (*Arum maculatum*); burdock (*Arctium minus*); and ivy (*Hedera helix*). A mixed poplar (*Populus sp.*) and Leyland cypress (*Cupressus x leylandii*) tree line forms the south-eastern boundary of the site, while the western boundary is dominated by sycamore (*Acer pseudoplatanus*). Large scattered trees line the northern boundary, dominated by lime (*Tilia x europaea*) and oak (*Quercus robur*). Internally, the site is largely devoid of trees, with 2 no. young oaks the only trees of note.

- 4.2.7 Ditches of varying depths and water levels further delineate the site boundaries. The ditches to the western and south-eastern site boundaries were dry at the time of the survey; however, the presence of sedges (*Carex sp.*) on the banks and the lack of vegetation within the ditches suggest that they hold water during the wetter months (*Refer to Photograph Nos. 07 and 08 – Appendix No. 01*). The ditch to the northern boundary contained water to a depth of approximately 15.00 centimetres at the time of the survey and was flowing in a westerly direction. Flow of the water was slow, with few macrophytes present. A small pond was located approximately 60.00 metres north of the site within a residential garden.

4.3 **HSI Assessment**

- 4.3.1 **Pond P1** is located in a residential garden, within formally-maintained lawns, approximately 60.00 metres north-east of the development site. The pond covers an area of approximately 120.00m² and is approximately 1.0 metre at its deepest point. Macrophyte coverage was approximately 30 per cent at the time of the survey. Water quality appeared good, and the pond is utilised by fish and wildfowl.
- 4.3.2 The *Habitat Suitability Index (HSI)* was developed by *Oldham et al (2000)* as a way of providing a numerical index allowing a direct comparison to be made between different water bodies. This index assesses ponds against 10 no. different criteria, each of which have a bearing on the likelihood of great crested newts (*Triturus cristatus*) being present in the pond under consideration.
- 4.3.3 The HSI results in a score between 1 and 0; with 1 being optimal conditions and 0 being unlikely to support a population. However, the index merely gives an indication as to whether a pond has the potential to support GCNs and is not a substitute for more detailed presence / absence surveys for protected species of amphibian.

4.3.4 The 10 no. attributes against which ponds are assessed are:

- *Geographic Location;*
- *Pond Area (at its highest level);*
- *Permanence;*
- *Water Quality;*
- *Perimeter Shading;*
- *Numbers of Wildfowl;*
- *Numbers of Fish Present;*
- *Pond Count (within a 1.0 km radius);*
- *Terrestrial Habitat (within 250.0 m);*
- *Macrophyte Coverage.*

4.3.5 Full results of the HSI for **Pond P1** are indicated below.

HSI Criteria	P1
<i>SI1 - Location</i>	1.00
<i>SI2 - Pond Area</i>	0.4
<i>SI3 - Permanence</i>	0.90
<i>SI4 - Water Quality</i>	0.67
<i>SI5 - Shade</i>	1.00
<i>SI6 - Wildfowl</i>	0.67
<i>SI7 - Fish</i>	0.33
<i>SI8 - Ponds</i>	0.3
<i>SI9 - Terrestrial Habitats</i>	0.67
<i>SI10 - Macrophyte Coverage</i>	0.60
HSI Score	0.6
Suitability	Average

4.4 Bat Roost Assessment

4.4.1 There are no buildings on site; however, there are 4 no. trees which are proposed to be removed to accommodate the development proposals. These trees were examined from the ground for any features which could be utilised by bats, for example woodpecker holes, cracks and splits, loose bark or dense ivy covering. If such features were identified, they were examined for signs of bat presence, such as droppings, urine marks, grease staining, scratch marks, audible squeaking or flies around holes.

4.4.2 The trees were assessed for their bat roost potential: the results are shown below:

<i>Tree No.</i>	<i>Species</i>	<i>Age</i>	<i>Features</i>	<i>Potential</i>
<i>T 01</i>	Alder	Semi-mature	Light ivy covering to 2 no. leaders. Ivy is not considered dense enough to be of use to bats. No other discernible features noted.	'Negligible'
<i>T 02</i>	Oak	Young / Semi-mature	No features noted. Tree is of a small size and multi-stem from the base.	'Negligible'
<i>T 03</i>	Oak	Young / Semi-mature	No features noted. Tree is of a small size and in good condition.	'Negligible'

5.0 EVALUATION

- 5.1 The ecological survey conducted during September 2015 has identified habitats of improved grassland; tall ruderal; and dense scrub with scattered trees and tree lines to the site boundaries. Areas directly affected by the proposed development are limited to areas of tall ruderal, scrub and grassland.
- 5.2 The vascular plant species encountered were common and the assemblage for each habitat type was lacking in species diversity. There were no species of any particular botanical value noted during the course of this survey.
- 5.3 Despite the low botanical diversity, the matrix of dense scrub, tall ruderal, grassland and tree lines provides optimal habitat for a range of UK reptile species. This potential is further augmented by areas of dead wood and compost which provide opportunity for reptile foraging, breeding and hibernation. Previous survey work carried out by Lizard Landscape Design and Ecology on adjacent sites revealed a 'low' population of slow worm, common lizard and grass snake. The aforementioned site is connected to the development site by an intact hedge / tree line; it is therefore plausible that the development area supports a similar assemblage of reptiles.

- 5.4 The terrestrial habitat on site is also well suited to supporting a population of amphibians during the terrestrial phase of their life cycle, and the network of ditches which surround the site provide breeding opportunity as well as connectivity to other areas. The small pond located within an adjacent residential property was assessed as providing 'average' habitat suitability. Previous amphibian surveys carried out by Lizard Landscape Design and Ecology in 2012 as part of the Eric Wall Nursery development to the south-east did not reveal any great crested newts within the waterbodies surveyed. It is recommended that further amphibian surveys be undertaken during the appropriate survey season (*March-June inclusive*) to fully inform the development.
- 5.5 All trees scheduled for removal within current development proposals were found to offer '*negligible*' bat roost potential. The trees were all semi-mature specimens with no discernible bat roost features. There was a light ivy covering present on 2 no. of these trees; however, it was considered too sparse to be utilised by crevice-dwelling bat species.
- 5.6 Tree lines around the site are considered likely to act as important linear features within the local landscape. Features such as these are readily used by bats as commuting and foraging corridors. The presence of bats within the local area has been confirmed by records of 8 no. bat species within 5.0 kilometres of the development site (*SxBRC*). It is recommended that these mature tree lines be retained, and artificial lighting should avoid excessive light spill onto these areas to protect existing bat foraging areas.

6.0 PROTECTED SPECIES – CONCLUSIONS AND RECOMMENDATIONS

Reptiles

- 6.1 The matrix of dense scrub, tall ruderal, grassland and tree lines provides optimal habitat for a range of UK reptile species. The potential for reptiles to be present on the site is further augmented by confirmed populations of grass snake, slow worm and common lizard to the south of the development area. A detailed reptile population survey and assessment is therefore required.

- 6.2 35 no. artificial refugia were laid out on the site on 16th September 2015. 7 no. site visits will be conducted following a settling period. All site visits will be undertaken in suitable weather conditions (*10-18°C, dry, sunny, calm*). Following a detailed reptile survey of the site area, a detailed reptile survey report would be compiled including a detailed reptile mitigation strategy if required.

Amphibians

- 6.3 The pond to the north of the site is considered to offer '*average*' habitat suitability to support a population of great crested newts. Ditches surrounding the site offer further breeding and commuting opportunities, while the dense vegetation on site offers good terrestrial habitat.
- 6.4 The ditch system surrounding the site was previously surveyed in spring 2012. No great crested newts were found during these surveys. It is considered prudent to re-survey this area to provide up-to-date survey data; however, it is not anticipated that a large great crested newt population would be identified. If any protected species of amphibian are identified, a suitable mitigation strategy would be designed and employed prior to construction beginning on site.
- 6.5 Based on the results of these Detailed Phase 2 Surveys, if amphibians are found, a suitable method statement and programme of mitigation for amphibians within the site would be designed that could include a translocation exercise or a considered and supervised strategy for site clearance works. If great crested newts are found, a *Natural England European Protected Species Derogation Licence* would be required in order for development activities to proceed lawfully.

Bats

- 6.6 Trees marked for removal were inspected and found to offer '*negligible*' bat roost potential. Mature tree lines should be retained within the development proposals, with any excessive light spill on these areas avoided. No further surveys with regard to bats are considered necessary on this site.

Birds

- 6.7 The dense scrub and tree lines on site also provide ample nesting sites for breeding birds. It is an offence under *The Wildlife and Countryside Act 1981 (as amended)* to damage or destroy the active nest of any bird. To avoid contravening this act, it is advised that any vegetation clearance takes place outside the breeding season (*February-September inclusive*) or following inspection by a suitably qualified ecologist.

Badgers

- 6.8 No signs of badgers, such as snuffle holes, latrines, prints, scratch marks or tracks, were located during the survey. Much of the site was inaccessible due to the dense vegetation, but no tracks leading into / out of this scrub were noted. No further survey work with regard to badgers is required for this site.

7.0 ECOLOGICAL ENHANCEMENTS

- 7.1 The design of the proposed development should consider enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and Local Planning Policy. Recommendations for ecological enhancements that could be considered as part of development proposals could include:
- *The use of native tree and shrub species within the soft landscape proposals; suitable species may include common hazel (*Corylus avellana*); hornbeam (*Carpinus betulus*); and downy birch (*Betula pubescens*);*
 - *The use of flowering shrubs as listed within the RHS Perfect for Pollinators plant list to provide year-round interest for invertebrates;*
 - *Re-enforcing the boundary hedges and tree lines with native species to allow their use as a commuting / foraging corridor for birds and bats on site;*
 - *Provision of nesting boxes for a variety of bird species;*
 - *Provision of bat boxes / bricks within the new dwelling houses / existing surrounding trees;*
 - *The use of a sympathetic external lighting scheme which avoids light spill onto ecologically sensitive areas such as mature trees, hedge lines, and bat boxes / bricks.*

8.0 REFERENCES

JNCC (2003): Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit; JNCC

Mitchell-Jones and McLeish (2004): Bat Workers Manual; 3rd Edition, JNCC

Streeter, D. (2010): The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London

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Table No. 01 – Species List for Site Habitats

Preliminary Ecological Appraisal – Land at Lake Lane, Barnham

Improved Grassland

Common Name	Scientific Name	DAFOR
Broadleaf Plantain	<i>Plantago major</i>	LA
Common Daisy	<i>Bellis perennis</i>	LA
Creeping Buttercup	<i>Ranunculus repens</i>	F
Creeping Thistle	<i>Cirsium arvense</i>	O
Curly Dock	<i>Rumex crispus</i>	O
Perennial Rye-grass	<i>Lolium perenne</i>	D
Red Fescue	<i>Festuca rubra</i>	LA
Yorkshire Fog	<i>Holcus lanatus</i>	LA

Scattered Trees

Common Name	Scientific Name	DAFOR
Alder	<i>Alnus glutinosa</i>	LF
Hawthorn	<i>Crataegus monogyna</i>	R
Lime	<i>Tilia x europaea</i>	LD
Oak	<i>Quercus robur</i>	F
Poplar	<i>Populus sp.</i>	LD
Sycamore	<i>Acer pseudoplatanus</i>	LD

Tall Ruderal

Common Name	Scientific Name	DAFOR
Broad-leaved Dock	<i>Rumex obtusifolius</i>	R
Broad-leaved Willowherb	<i>Epilobium montanum</i>	LD
Buddleia	<i>Buddleia davidii</i>	O
Burdock	<i>Arctium minus</i>	LF
Common Fleabane	<i>Pulicaria dysenterica</i>	LD
Common Nettle	<i>Urtica dioica</i>	D
Cow Parsley	<i>Anthriscus sylvestris</i>	LD
Hedge Bindweed	<i>Calystegia sepium</i>	LD
Hoary Willowherb	<i>Epilobium parviflorum</i>	LD
Hogweed	<i>Eracleum sphondylium</i>	O
Smooth Sowthistle	<i>Sonchus oleraceus</i>	O

Scrub

Common Name	Scientific Name	DAFOR
Bramble	<i>Rubus fruticosus</i>	D

D – Dominant, A – Abundant, F – Frequent, O – Occasional, R – Rare, L – Locally

Table No. 02 – Target Notes (TN) for Preliminary Ecological Appraisal (PEA) and Protected Species Assessment – Land at Lake Lane, Barnham

TN	Description	Protected Species	Potential	Photo
TN 01	Group of 2 no. alder trees proposed for removal. Some light ivy covering was noted. No other discernable bat roost features were identified.	Bats	'Negligible'	No. 10
TN 02	Young / semi-mature oak tree due to be removed to facilitate the development proposals. The tree was in a good condition with no bat roost potential.	Bats	'Negligible'	No. 11
TN 03	Young / semi-mature oak tree due to be removed to facilitate the development proposals. The tree was in good condition with no bat roost potential.	Bats	'Negligible'	No. 12
TN 04	Ditch containing a small amount of water at the time of the survey. The ditch was not found to support any GCN in 2012; however low populations of smooth and palmate newts were found locally.	GCN	'Moderate'	No. 06
TN 05	2 no. ditches which were dry at the time of the survey; however the lack of vegetation within the ditch suggests these hold water on an ephemeral basis.	GCN	'Low'	No. 07 & 08
TN 06	Matrix of scrub, tall ruderal, and grassland which provides ample opportunity for reptile species to thrive. Populations of reptiles have been confirmed on adjacent sites locally.	Reptiles	'High'	No. 01 - 04
TN 07	Intact tree lines provide strong linear features and should be retained wherever possible. Excessive light spill should be avoided onto these areas with bat foraging potential.	Bats	'Moderate'	No. 05

Appendix No. 01 – Preliminary Ecological Appraisal – Site Photographs

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 01 - View of the site area looking towards the south.



Photograph No. 02 - View of the site looking along the public footpath towards the west.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 03 - View of the site looking north along the access driveway.



Photograph No. 04 - View of the site looking towards the east.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 05 - Tree line to the southern site boundary.



Photograph No. 06 - Drainage ditch which deliniates the northern boundary of the site area.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 07 - View of the dry ditch to the south of the site area.



Photograph No. 08 - View of the dry ditch to the west of the site area.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 09 - View of Pond P1 located within an adjacent residential garden approximately 60.00 metres north of the site area.



Photograph No. 10 - 2 no. alder trees proposed for removal. These trees are considered to offer '*negligible*' bat roost potential.

APPENDIX NO. 01 - SITE PHOTOGRAPHS



Photograph No. 11 - 1 no. oak tree marked proposed for removal. This tree is considered to offer '*negligible*' bat roost potential.



Photograph No. 12 - 1 no. oak tree proposed for removal. This tree is considered to offer '*negligible*' bat roost potential.