



PRELIMINARY ECOLOGICAL APPRAISAL REPORT

Land at Springfields, Hook Lane, Aldingbourne

On Behalf Of: Domusea Developments Ltd

Prepared by	GS
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The Old Bank, 34 South Street, Tarring, Worthing, West Sussex, BN14 7EH

SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Domusea Developments Ltd to undertake a Preliminary Ecological Appraisal of land at Springfields, Hook Lane, Aldingbourne (*Grid Reference: SU 935 045 – hereafter referred to as 'the site'*). A preliminary ecological appraisal (*PEA*) was undertaken on 26th March 2019, to appraise the existing ecological resource within the land and the surrounding area.

The main body of the site is roughly divided into two sections; the western section of the site consists of a residential bungalow with associated access and gardens; the eastern section consists of an improved grassland field. The plant species recorded on site were common and widespread species; no rare or unusual species were recorded. The habitats which are to be directly affected by the development proposals are of value within the site area only. The hedge lines and trees surrounding the site are of local value and should be retained where possible. The site has some potential to support low numbers of protected species; updated survey work is required to provide the most up-to-date information for this site.

A summary of recommendations is as follows:

- Undertake a full reptile survey on site to confirm whether reptiles are present within marginal vegetation;
- Retain all surrounding trees / hedges where possible;
- Employ a sensitive lighting scheme across the site with all light spill onto trees and hedges avoided;
- Remove any areas of hedging, trees or scrub and birdboxes outside the bird nesting season (*Nesting season: March – August inclusive*) or following inspection to ensure no active nests are present;

Recommendations for enhancement which should be included within the scheme are detailed in section 7.0 below.

1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Domusea Developments Ltd to undertake a Preliminary Ecological Appraisal of land at Springfields, Hook Lane, Aldingbourne (*Grid Reference: SU 935 045 – hereafter referred to as ‘the site’*). A preliminary ecological appraisal (*PEA*) was undertaken on 26th March 2019, to appraise the existing ecological resource within the land and the surrounding area.
- 1.2 The *PEA* comprised 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 land.
- 1.3 The field survey data and analysis contained in this report was undertaken and prepared by George Sayer (*BSc(Hons) PgDip, Project Ecologist; Lizard Landscape Design and Ecology*). The report has been reviewed by Catherine O’Reilly (*MCIEEM, Senior Ecologist; Lizard Landscape Design and Ecology*).

Site Information

- 1.4 The survey area covers c. 0.46Ha and is located on Hook Lane, a country lane between the villages of Woodgate and Aldingbourne, approximately 7.0 km west of the centre of the city of Chichester. The site is enclosed by gappy mixed-species hedges; scrub and treelines and is bordered by Hook Lane to the west; a patch of scrubby woodland to the east; residential dwellings with extensive gardens to the north and south of the western section; and a new housing development to the north of the eastern section.

Surrounding Landscape

- 1.5 The surrounding landscape is largely rural with Chichester to the west and Bognor Regis to the south the nearest large urban or residential areas. The Chichester-Barnham rail line runs 230.0 m to the south of the site. The site is to the west of a small group of linear residential settlements known as the Six Villages. The surroundings are sparsely wooded and dominated by arable agricultural fields, lined with hedges.
- 1.6 There are 3 no. waterbodies located within 500.0m of the site; these consist of a small garden fishpond on the site; an established nursery reservoir, 150.0 m to the west of the site and a farm pond 180.0 m to the north-west of the site.

Development Proposals

- 1.7 It is understood that the development proposals include the construction of a new residential development, with associated access, parking and gardens.

2.0 SCOPE OF THE SURVEY

- 2.1 The aim of the preliminary ecological appraisal survey has been:
- *To identify the main habitat types present on site;*
 - *To assess the likely importance of the habitats present;*
 - *To assess the likely presence of protected species;*
 - *To provide recommendations for surveys of protected species where necessary;*
 - *To list ecological constraints present on the site;*
 - *To highlight any ecological opportunities and list potential enhancements for inclusion within the scheme.*

3.0 METHODOLOGY

3.1 *Desk Study*

- 3.1.1 The Multi-Agency Geographical Information Centre (*MAGIC*) was consulted for information regarding priority habitats and statutory designated sites within 2.0km of the proposed construction site.

3.2 *Site Visit*

- 3.2.1 A preliminary ecological appraisal was undertaken on 26th March 2019, and the site subjected to an ecology 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 (*Figure No. 01*) and Species Lists for Habitat Parcels (*Table No. 05*).
- 3.2.2 Habitats within the land were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. This involved identifying features that may be used by protected species, potential foraging areas and other signs of use. Water bodies were recorded wherever possible, within 500 metres of the proposed development site.
- 3.2.3 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 the survey and hence overlooked. These are accepted constraints associated with the standard *Phase 1 Habitat Survey Methodology*.
- 3.2.4 The results are summarised and accompanied in large part by photographic evidence contained in *Appendix A – Site Photographs*. Recommendations for further investigation and survey are made in the following report.
- Preliminary Bat Roost Assessment***
- 3.2.5 A Preliminary Bat Roost Assessment was undertaken on 26th March 2019 by an experienced, licenced bat surveyor who undertook an internal and external assessment of all buildings and trees within the proposed construction zone.

3.2.6 The bat surveyor assessed the existing buildings visually and searched for evidence such as:

- *Grease Marks;*
- *Urine Stains;*
- *Bat Droppings;*
- *Feeding Remains;*
- *Dead or Live Bats.*

3.2.7 Trees were visually identified from the ground, using binoculars where necessary, for features that could be used by bats such as:

- *Woodpecker Holes;*
- *Knot Holes;*
- *Tear-outs;*
- *Flush Cuts;*
- *Double Leaders.*

3.2.8 Once features had been assessed the trees were then categorised in accordance with *Table 4.1 of the Bat Conservation Trust's Good Survey Guidelines (2016)*:

Table No. 01 – Categorisation Criteria

Category	Buildings	Trees
Negligible	No suitable features identified.	No suitable features identified.
Low	A structure which could be used opportunistically, however, are not likely to be used on a regular basis / by a large number of bats.	Tree of sufficient size / age to support bat roost features; but with none identified from the ground.
Moderate	A building with features which, could be used regularly by a small number of bats.	Tree with features which, may support a bat roost of low conservation status.
High	A building with features suitable for use by a large number of bats on a regular basis.	A tree with several potential bat roost sites that are suitable for use by a large number of bats.

4.0 RESULTS

4.1 Desk Study – Designated Sites

- 4.1.1 The following designated sites 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 MAGIC was consulted for details of ecologically sensitive statutory protected sites within 2.0km of the proposed development; none were identified with the nearest being *Eartham Pit, Boxgrove SSSI* – a geological and archaeological site just over 4.0 km to the north.
- 4.1.3 The site is located within the *Impact Risk Zone* of *Fairmile Bottom SSSI* and *Bognor Reef SSSI*; however development proposals do not meet the criteria which would require consultation with Natural England.

Non-Statutory Protected Areas

- 4.1.4 *Sites of Nature Conservation Importance (SNCIs)* are designations applied to the most important non-statutory nature conservation sites. They are recognised by the *National Planning Policy Framework (2018)* and as such are material considerations when assessing planning applications. No SNCIs are present within 2.0 km of the site; just outside of this area, at 2.06 km from the site is the *Fontwell Racecourse SNCI* – this site supports two areas of calcareous and neutral grassland within the area outlined by the racecourse. The proposals would not have any impact upon this SNCI, which is heavily isolated from the site.

4.2 Habitats

- 4.2.1 Within 2.0 km of the site there are *Priority Habitats* of *Ancient Woodland*, *Deciduous Woodland*, *Traditional Orchard*, *Woodpasture and Parkland*, *Coastal and Floodplain Grazing Marsh* and *Chalk Stream*.

4.2.2 Habitats within and adjacent to the land include:

- *Existing Building;*
- *Hard / Bare Ground;*
- *Amenity Grassland;*
- *Improved Grassland;*
- *Tall Ruderal;*
- *Defunct Native Hedge with Trees;*
- *Mixed Woodland;*
- *Dense / Continuous Scrub;*
- *Scattered Trees;*
- *Dry Ditch.*

Existing Building

4.2.3 A total of 6 no. buildings were identified within the proposed construction zone. The buildings on site are of varying ages and constructions; a summary of findings is detailed in section 4.3 below.

Hard / Bare Ground

4.2.4 The dwelling and other outbuildings are joined by paths formed of gravel, paving and concrete. Several patches of bare earth are noted within planting beds and beneath large evergreen trees. These areas offer negligible ecological value.

Amenity Grassland

4.2.5 The dwelling is surrounded by amenity grassland lawn. The sward was well-maintained and dominated by perennial ryegrass (*Lolium perenn*) with common forb such as daisy (*Bellis perennis*) and yarrow (*Achillea millefolium*) abundant. The sward mix varied across the site, but all was well-mown and offered negligible ecological value.

Improved Grassland

- 4.2.6 The eastern section of the site consists of an improved grassland field. The grass had recently been cut relatively low and was dominated by common grasses including false oat (*Arrhenatherum elatius*); cocksfoot (*Dactylis glomerata*) and meadowgrass (*Poa sp.*) and a number of common forbs such as clover (*Trifolium sp.*) and creeping buttercup (*Ranunculus repens*). This common and widespread habitat is of **site value only**.

Tall Ruderal

- 4.2.7 Small areas of tall ruderal vegetation exists around the site, mostly to field margins and around compost and bonfire piles. Common nettle dominates with patches of dense cleavers (*Galium aperine*) and lords and ladies (*Arum maculatum*) noted. This common and widespread habitat is of **site value only**

Defunct Native Hedge with Trees

- 4.2.8 The northern boundary of the site contains a strip of vegetation which once would have formed a hedge. Old hawthorn (*Crataegus monogyna*) and field maple (*Acer campestre*) trees line the boundary with several large pedunculate oak (*Quercus robur*) and ash (*Fraxinus excelsior*) emergent. The vegetation provides some habitat and visual screening and is considered to be of **local value**.

Mixed Woodland

- 4.2.9 To the east just outside of the site is a small area of trees and scrub. The boundary trees are a mixture of Monterey cypress (*Cupressus macrocarpa*) and pedunculate oak, with blackthorn scrub behind. The area is of limited extent and not designated as *Priority Habitat – Deciduous Woodland*; however given the relative lack of woodland in the vicinity this vegetation likely provides some shelter for wildlife. The woodland habitat is of **local value**.

Dense / Continuous Scrub

- 4.2.10 The eastern, southern and northern boundaries are partially lined with scrub; some of this consists of dense blackthorn (*Prunus spinosa*) and elder (*Sambucus nigra*) whilst other areas are mainly bramble (*Rubus fruticosus*). This common and widespread habitat is of **site value**.

Scattered Trees

- 4.2.11 Small numbers of scattered trees are present to the site boundaries. The majority of these are large Monterey cypress with some other smaller ornamental trees, and larger native trees within hedges and scrub. This common and widespread habitat is of **site value**.

Dry Ditch

- 4.2.12 A shallow dry ditch lines the northern boundary of the site. The ditch was lined with grass. This habitat is of **site value**.

4.3 Protected Species Assessment***Amphibians****Desk Study*

- 4.3.1 A low number of records of GCN exist within 2.0km of the site, with the nearest being within the reservoir and pond west of the proposed development site. Detailed amphibian surveys of these waterbodies in 2013 recorded 'low' populations of GCN. The surveys were undertaken as part of a proposal to construct housing on the site, which would have required the enhancement of the pond area for GCN. This proposal does not appear to have been carried out to-date.

Site Assessment

- 4.3.2 Improved grassland, tall ruderal, and hedgerows to the site margins provide some limited suitable terrestrial habitat for GCN. The ditch was dry and not considered to hold sufficient water to host GCN. The HSI assessment of the garden pond is summarised in table no. 02 below:

Table No. 02 – Summary of HSI Results

HSI Criteria	Pond P1
Location	1.00
Pond Area	0.05
Permanence	0.90
Water Quality	0.67
Shade	1.00
Waterfowl	1.00
Fish	0.01
Pond Count	0.77
Terrestrial Habitat	0.33
Macrophytes	0.60
HSI Score	0.37
Suitability	Poor

- 4.3.3 The pond is a small ornamental fish pond adjacent to the dwelling. The only suitable habitat would be beneath the hedge and in the adjacent patch of mixed woodland. It is considered highly unlikely that GCN would cross the road and residential properties to reach the relatively small and largely unsuitable habitats on-site. Given the minimal extent of suitable habitat onsite, the site is considered to be of negligible value to GCN.

Reptiles*Desk Study*

- 4.3.4 There are records of slow worm, grass snake, common lizard and adder within 2.0km of the site. Widespread reptiles are assumed to be present within suitable habitats in the local area.

Site Assessment

- 4.3.5 Improved grassland, tall ruderal, and hedgerows to the site margins provide some limited suitable habitat for common, widespread reptile species such as slow worm and grass snake. Due to the small extent of the suitable areas the area is of value within the **site area only**.

Bats*Desk Study*

- 4.3.6 Common, Soprano and Nathusius' Pipistrelle (*Pipistrellus pipistrellus*; *Pipistrellus pygmaeus*; *Pipistrellus nathusii*), Brown Long-eared (*Plecotus auritus*), Serotine (*Eptesicus serotinus*), Natterer's (*Myotis nattereri*), Noctule (*Nyctalus noctula*) and Barbastelle (*Barbastella barbastelus*) bats have been recorded within 2.0km of the site area.

Site Assessment

- 4.3.7 The existing buildings on site were assessed for their potential to support roosting bats, a summary of the assessment is shown below:

Table No. 03 – Building Assessment

Ref.	Description	Category
B01	<i>Brick and block rendered bungalow with a pitched timber and steel roof of flat corrugated concrete tiles. Several loft spaces were noted, some of which have been converted. The lofts were heavily cobwebbed and no evidence of bats such as droppings or urine splashes were noted. The fascias were of wood and generally in good condition. No obvious access points into the roof were noted, and the tiles were very well-fitting with neat flashing to the valleys and chimney.</i>	<i>Negligible</i>
B02	<i>Elevated timber office building with flat felt roof and large windows. No evidence of bats was noted and the building was considered unsuitable for bats.</i>	<i>Negligible</i>
B03	<i>Small stable formed of timber with a flat timber roof. The stable doors let in lots of light and no suitable roost features or evidence of bats was noted.</i>	<i>Negligible</i>
B04	<i>Small timber shed with a pitched felt roof. No evidence of bats was noted and the building was considered unsuitable for bats.</i>	<i>Negligible</i>
B05	<i>Glass greenhouse offering no potential roost features.</i>	<i>Negligible</i>
B06	<i>Small wooden Wendy-house. No evidence of bats was noted and the building was considered unsuitable for bats.</i>	<i>Negligible</i>

- 4.3.8 A small number of trees were identified on site as offering some level of bat roost suitability.

Table no. 04 – Trees with potential roost features

Ref	Description	Category
<i>T01</i>	<i>Mature oak tree with no discernible potential roost features but is of a size and age which could support a roost.</i>	<i>Low</i>
<i>TG02</i>	<i>A number of very large mature Monterey cypress trees with no discernible potential roost features but is of a size and age which could support a roost, and some dense branching which may offer potential for individual bats.</i>	<i>Low</i>

- 4.3.9 The adjacent small patch of woodland and hedge / treelines are considered likely to support foraging and commuting by more common bat species. The presence of residential dwellings to all aspects has likely reduced the potential for more uncommon and light-averse species to be present. This habitat is likely to be of **local importance** to the local bat community.

Dormouse

Desk Study

- 4.3.10 There are a number of records of dormice within 2.0km of the site. These are generally in association with more heavily-wooded areas to the east of the vicinity.

Site Assessment

- 4.3.11 The vegetation on-site is isolated from other suitable habitat and is much too small in extent to support a viable population of dormice. The habitat on site is therefore of no more than **site value** to dormice.

Badger

Desk Study

- 4.3.12 Badger records are confidential and were therefore not included within the data search. Badgers are assumed to be present in suitable habitats locally.

Site Assessment

- 4.3.13 Evidence of mammal activity including tracks were recorded within the site leading into the woodland to the east of the site. No latrines, snuffle holes or potential setts were noted; a sett could be located deeper within the woodland area. The area is considered to be at most of **site value** to foraging and commuting badgers.

Water Vole*Desk Study*

- 4.3.14 Water vole are well-recorded within 2.0km of the site, mostly in association with watercourses such as the Lidsey Rife.

Site Assessment

- 4.3.15 A single ditch was recorded as dry at the time of the survey. Its shallow profile and highly ephemeral nature make it unsuitable to support a population of water vole. The site is of **negligible value** to water vole.

Other Mammals

- 4.3.16 Numerous records of common mammals including rabbit exist within 2.0km of the site area. A number of mammal tracks (*likely rabbit or fox*) were identified around the site, particularly along the northern ditch.

Birds*Desk Study*

- 4.3.17 A large number of bird species are recorded locally. Birds of relevance to the site include skylark (*Alauda arvensis*); tree sparrow (*Passer montanus*); and nuthatch (*Sitta europaea*). Schedule 1 birds present locally include woodlark (*Lullula arborea*); barn owl (*Tyto alba*); and Cetti's warbler (*Cettia cetti*).

Site Assessment

- 4.3.18 Optimal nesting habitat is limited to the adjacent woodland and hedge / tree lines. The grassland may be of some limited value to winter visitors such as redwing and fieldfare as well as grassland breeders such as skylark; however, the value is reduced by the lack of structure, regular maintenance and small extent. The area overall is likely to be of **site / local value** to breeding / foraging birds.

*Invertebrates**Desk Study*

- 4.3.19 Species present locally are relatively typical for the habitats. Several species of mining bees (*Andrena spp.*) and butterflies are noted. Stag beetles (*Lucanus cervus*) are recorded within the immediate vicinity.

Site Assessment

- 4.3.20 Suitable habitat for less common invertebrates is limited to the hedgerows and woodland which border the site. Deadwood and old hedgerow trees contain features for a range of invertebrates including stag beetle larvae. The site in general lacks the floral diversity to support a good range of invertebrates and is likely to be of value within the **site area only**.

Others

- 4.3.21 No suitable habitat for any other protected species was recorded on site.

4.4 Survey Constraints / Considerations

- 4.4.1 No major constraints which would cast doubt on these results were encountered, full access was available to all areas of the site.

5.0 EVALUATION, CONSTRAINTS AND RECOMMENDATIONS

5.1 Habitats

5.1.1 The main body of the site is dominated by existing buildings; hard surfaces; bare ground; amenity grassland; and improved grassland with small patches of tall ruderal species; the plant species on site were common and widespread species; no rare or unusual species were recorded. The habitats which are to be directly affected by the development proposals are of **value within the site area** only.

5.1.2 Woodland and hedge / tree lines have been identified as being of local value and should be retained and protected within the scheme proposals. The current plans for the site do not impact upon these areas. The site is isolated from any other areas of priority habitat, beyond the small patch of un-designated woodland.

5.1.3 The site is well isolated from local protected sites. The number of dwellings would be relatively limited. The local area is rural with a range of informal paths and public footpaths allowing for recreation. There will be **no likely significant effect** upon the local protected sites as a result of the development proposals.

5.2 Protected Species

Amphibians

5.2.1 The pond on site is considered to offer 'poor' potential for GCN. It is considered highly unlikely that GCN would have reached the pond, being a small fish pond adjacent to the dwelling. The terrestrial habitats on-site offer some very limited potential for GCN; the low populations found in ponds to the west would be unlikely to traverse the distance and obstacles to the site when higher-quality habitat is available immediately adjacent the ponds. Prudent Reasonable Avoidance Measures would protect newts in the unlikely situation of them being present on-site. There will be **no likely significant effect** upon the local GCN population or individual GCN as a result of the development proposals.

Reptiles

- 5.2.2 Limited areas of suitable reptile habitat exist around the site. To determine whether reptiles are present on-site, a detailed reptile survey should be undertaken during suitable conditions. Should reptiles be found a suitable buffer zone should be created and maintained to enable the ongoing favourable conservation status of reptiles in the immediate area.

Bats

- 5.2.3 A small number of trees have been designated as having 'low' bat roost potential. No further survey work is recommended for these trees; however, should any of these trees require tree surgery works or removal, the tree surgeon shall undertake aerial inspection to ensure there are no features with potential for bats. Should any features be discovered, the ecologist should be consulted to determine an appropriate course of action.
- 5.2.4 Hedgerows and trees which surround the site are likely to form foraging and commuting corridors for bat species. The removal of hedgerows has the potential to cause only limited habitat fragmentation; however this may adversely affect the local bat population. Should significant areas of hedgerow require removal, bat activity surveys should be undertaken during the optimal survey season. Three survey visits should be undertaken (*one each in Spring; Summer and Autumn*) to assess the current usage of the site by bats.
- 5.2.5 A sensitive lighting scheme must be employed with excessive light spill upon the surrounding woodland and hedge / treelines avoided.

Dormice

- 5.2.6 Hedgerows on site provide very limited habitat for dormice. No further survey for dormice is recommended.

Badgers

- 5.2.7 No evidence of badger setts was noted during the survey. Should a sett subsequently be found during clearance works, the sett would require monitoring for a period of 21 days to confirm presence or absence of badgers in this area. Sett monitoring surveys can be undertaken at any time of the year.

Other Mammals

- 5.2.8 All wild mammals are protected against intentional crushing or asphyxiation under the Wild Mammals (Protection) Act 1996. Care should be taken when excavating around any rabbit holes etc to ensure no wild mammal is intentionally harmed.

Breeding Birds

- 5.2.9 Removal of suitable nesting habitat (*trees/dense scrub*) and nestboxes should be undertaken outside the nesting season (*avoiding March-August*) or following inspection by a suitability qualified ecologist to ensure no active nests are present.

Invertebrates

- 5.2.10 All hedging and woodland should be retained where possible. Log piles should be retained within hedges as further habitat. Proposals do not affect habitat of any value to invertebrates; no constraints have been identified.

Summary of Recommendations

- 5.2.11 A summary of recommendations is as follows:
- Undertake a full reptile survey on site to confirm whether reptiles are present within marginal vegetation; if reptiles are present, produce an appropriate mitigation plan;
 - Retain all surrounding trees / hedges where possible;
 - Employ a sensitive lighting scheme across the site with all light spill onto trees and hedges avoided;
 - Remove any areas of hedging, trees or scrub and birdboxes outside the bird nesting season (Nesting season: March – August inclusive) or following inspection to ensure no active nests are present.

6.0 ECOLOGICAL ENHANCEMENTS / OPPORTUNITIES

6.1 The design of the proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Recommendations for ecological enhancements that should be considered as part of development proposals include:

- The use of flowering plants as listed within the RHS 'Perfect for Pollinators' plant list to within the soft landscape scheme provide year-round interest for invertebrates;
- The provision of nesting boxes for a variety of bird species within trees / the northern aspects of the buildings;
- Plant new species-rich hedging to the boundary of the site, and reinforcing existing hedges. Species should include hazel, hawthorn, blackthorn, crab apple, dogwood, oak, spindle, and guelder rose;
- Creation of a habitat corridor areas along the boundaries of the site to provide suitable habitat for reptiles as well as a commuting corridor for bats and terrestrial mammals. This area should be planted with scattered native shrubs with wildflower grassland;
- The use of log and compost piles in habitat areas to provide refugia for reptiles and amphibians;
- Bat boxes suitable for a range of species to be incorporated into the southern aspect of mature trees or buildings.

7.0 CONCLUSIONS

- 7.1 No evidence was recorded on site which would suggest that the development proposals are likely to have a major adverse effect upon biodiversity. The main body of the site is dominated by existing buildings; hard surfaces; bare ground; amenity grassland; and improved grassland with small patches of tall ruderal species; the plant species on site were common and widespread species; no rare or unusual species were recorded. The habitats are of limited ecological value.
- 7.2 Further survey work is required to allow suitable mitigation to be formulated, however the findings are unlikely to represent any major constraints to development. With appropriate mitigation the proposed development will have a negligible impact upon biodiversity in the local area while the proposed enhancements above would result in biodiversity gains in accordance with national and local planning policy.

8.0 REFERENCES

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

Collins J (ed): Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd ed.) The Bat Conservation Trust (2016);

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

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

www.magic.gov.uk.

Table No. 05 – Species List for Habitat Parcels**Improved Grassland**

Common Name	Scientific Name	DAFOR
Bristly Oxtongue	<i>Helminthotheca echioides</i>	R
Broadleaved Dock	<i>Rumex obtusifolius</i>	O
Catsear	<i>Hypochaeris radicata</i>	O
Chickweed	<i>Stellaria media</i>	LF
Clover	<i>Trifolium sp.</i>	A
Cocksfoot	<i>Dactylis glomerata</i>	D
Cranesbill	<i>Geranium sp.</i>	O
Creeping Buttercup	<i>Ranunculus repens</i>	A
Dandelion	<i>Taraxacum officinale</i>	O
False Oat	<i>Arrhenatherum elatius</i>	A
Hogweed	<i>Heracleum sphondylium</i>	O
Meadow Buttercup	<i>Ranunculus acris</i>	O
Meadowgrass	<i>Poa sp.</i>	A
Nettle	<i>Urtica dioica</i>	O
Perennial Ryegrass	<i>Lolium perenne</i>	D
Prickly Sow-thistle	<i>Sonchus asper</i>	R
Red Dead-nettle	<i>Lamium purpureum</i>	R
Thistle	<i>Cirsium sp.</i>	R
White Dead-nettle	<i>Lamium album</i>	R

Amenity Grassland

Common Name	Scientific Name	DAFOR
Black Medic	<i>Medicago lupulina</i>	LA
Bristly Oxtongue	<i>Helminthotheca echioides</i>	R
Broadleaved Plantain	<i>Plantago lanceolata</i>	O
Cocksfoot	<i>Dactylis glomerata</i>	O
Creeping Buttercup	<i>Ranunculus repens</i>	LA
Daisy	<i>Bellis perennis</i>	LA
Dandelion	<i>Taraxacum officinale</i>	O
Germander Speedwell	<i>Veronica chamaedrys</i>	O
Hairy Bittercress	<i>Cardamine hirsutum</i>	O
Mouse-ear Chickweed	<i>Cerastium fontanum</i>	LF
Perennial Ryegrass	<i>Lolium perenne</i>	D
Prickly Sow-thistle	<i>Sonchus asper</i>	R
Red Dead-nettle	<i>Lamium purpureum</i>	R
Thistle	<i>Cirsium sp.</i>	R
Willowherb	<i>Epilobium sp.</i>	R
Yarrow	<i>Achillea millefolium</i>	LF

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

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Tall Ruderal

Common Name	Scientific Name	DAFOR
Bramble	<i>Rubus fruticosus</i>	O
Broadleaved Dock	<i>Rumex obtusifolius</i>	F
Cleavers	<i>Galium aparine</i>	LA
Cocksfoot	<i>Dactylis glomerata</i>	LR
Dandelion	<i>Taraxacum officinale</i>	O
Elder	<i>Sambucus nigra</i>	O
Foxglove	<i>Digitalis purpurea</i>	R
Green Alkanet	<i>Pentaglottis sempervirens</i>	R
Ground Elder	<i>Aegopodium podagraria</i>	LF
Groundsel	<i>Senecio vulgaris</i>	R
Honeysuckle	<i>Lonicera periclymenum</i>	R
Ivy	<i>Hedera helix</i>	A
Lords and Ladies	<i>Arum maculatum</i>	LF
Nettle	<i>Urtica dioica</i>	D
Ragwort	<i>Jacobaea vulgaris</i>	R
Red Dead-nettle	<i>Lamium purpureum</i>	O
Stinking Iris	<i>Iris foetidissima</i>	R
Thistle	<i>Cirsium sp.</i>	O
White Bryony	<i>Bryonia alba</i>	R
White Dead-nettle	<i>Lamium album</i>	LF
Wood Avens	<i>Geum urbanum</i>	R

Dense / Continuous Scrub

Common Name	Scientific Name	DAFOR
Bay Laurel	<i>Laurus nobilis</i>	R
Blackthorn	<i>Prunus spinosa</i>	F
Bramble	<i>Rubus fruticosus</i>	D
Elder	<i>Sambucus nigra</i>	A
Ground Ivy	<i>Glechoma hederacea</i>	A
Hawthorn	<i>Crataegus monogyna</i>	O
Ivy	<i>Hedera helix</i>	A
Nettle	<i>Urtica dioica</i>	A
Stinking Iris	<i>Iris foetidissima</i>	O

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

Mixed Woodland

Common Name	Scientific Name	DAFOR
Bay Laurel	<i>Laurus nobilis</i>	LF
Bramble	<i>Rubus fruticosus</i>	LD
Hawthorn	<i>Crataegus monogyna</i>	F
Holly	<i>Ilex aquifolium</i>	F
Ivy	<i>Hedera helix</i>	A
Monterey Cypress	<i>Cupressus macrocarpa</i>	LD
Pedunculate Oak	<i>Quercus robur</i>	F

Scattered Trees; Defunct Native Hedge with Trees

Common Name	Scientific Name	DAFOR
Apple	<i>Malus sp.</i>	O
Ash	<i>Frazinus excelsior</i>	F
Blackthorn	<i>Prunus spinosa</i>	LA
Cherry	<i>Prunus sp.</i>	O
Elder	<i>Sambucus nigra</i>	O
Field Maple	<i>Acer campestre</i>	O
Hawthorn	<i>Crataegus monogyna</i>	LF
Hazel	<i>Corylus avellane</i>	D
Holly	<i>Ilex aquifolium</i>	O
Monterey Cypress	<i>Cupressus macrocarpa</i>	LD
Pedunculate Oak	<i>Quercus robur</i>	F

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

Table No. 06 – Target Notes

Ref	Feature	Description
TN01	Suitable reptile habitat	Tall ruderal and scattered scrub which may provide suitable reptile habitat.

Appendix A – Site Photographs

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 1 - View of the dwelling from the entrance.



Photograph No. 2 - View of one loft which is boarded internally.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 3 - The lofts were heavily cobwebbed and lacked evidence of bats.



Photograph No. 4 - The dwelling is surrounded by hard and bare ground; introduced shrubs and amenity grassland.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 5 - Pond P1 the fish pond in the garden of the dwelling.



Photograph No. 6 - View of the improved grassland field forming the east of the site.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 7 - Small patches of tall ruderal vegetation with limited potential for reptiles were noted on the site.



Photograph No. 8 - View of the dense scrub and small patch of mixed woodland forming the eastern boundary of the site.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 9 - The defunct hedge with trees to the north of the site; the dry ditch is present beneath the trees.



Photograph No. 10 - Buildings B02 and B03 offering 'negligible' bat roost potential.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 11 - View of B04 offering 'negligible' bat roost potential.



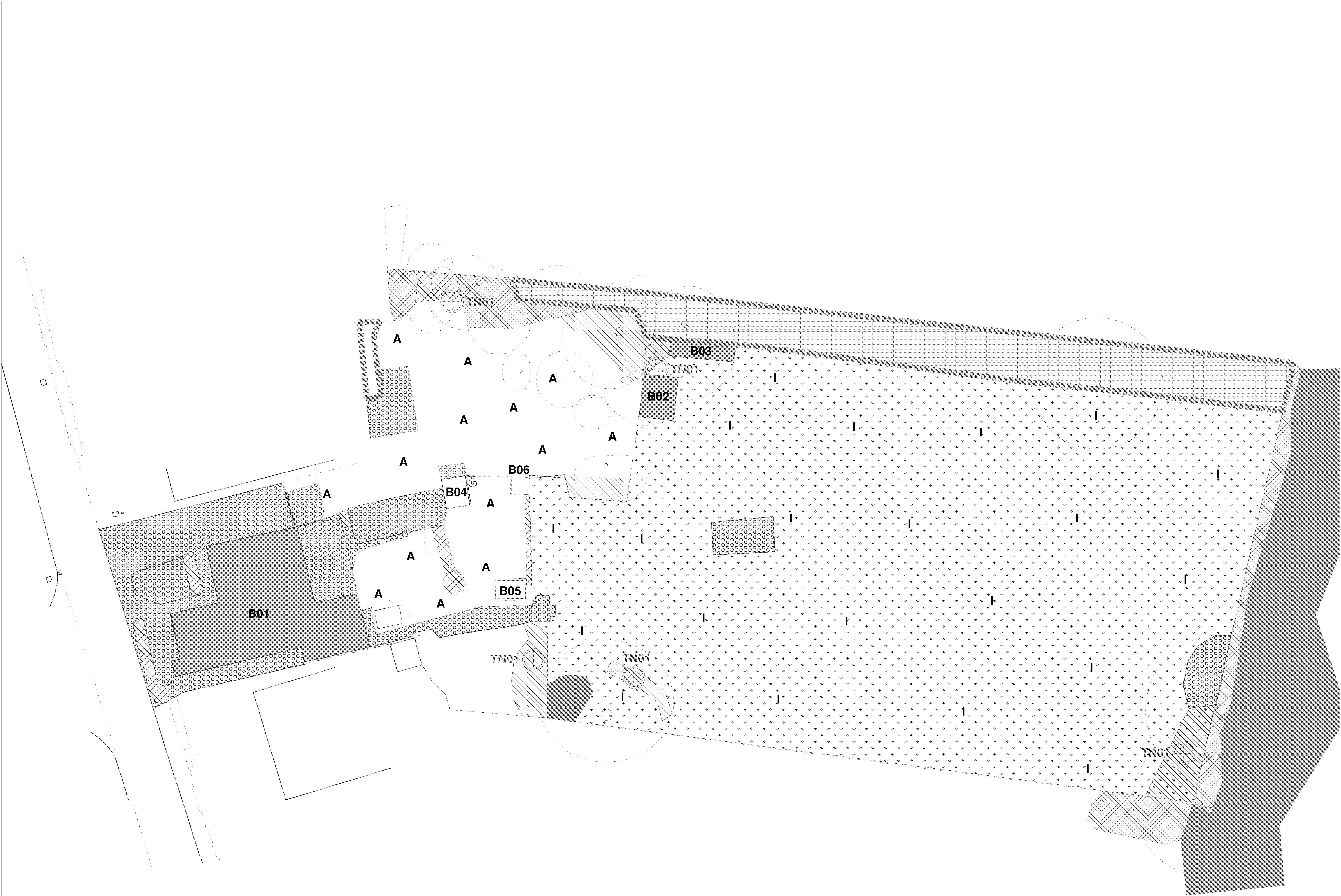
Photograph No. 12 - View of B06 offering 'negligible' bat roost potential.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 13 - The boundaries were partially lined with dense scrub.



Legend

A

Amenity Grassland.

I

Improved Grassland.

Site Boundary.

Bare/Hard Ground.

Existing Building.

Defunct, Species Poor Hedge with Trees.

Introduced Shrub.

Dense / Continuous Scrub.

Tall Ruderal.

TN01

Target Notes.

Compost Pile.

Mixed Woodland.

Planning Issue

Rev	Description	Date	Initials
00	Planning Issue	01.05.19	GS

LIZARD

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Client Domusea Developments Ltd			
Project Title and Location Springfields, Hook Lane Aldingbourne			
Drawing Title Figure No.1 - Site Habitat Plan			
Scale 1:200@A1	Drawn GS	Approved JJ	Date 01.05.19
Drawing No LLD1680-ECO-FIG-001			Revision 00

Figure No.1- Site Habitat Plan
Springfields, Hook Lane, Aldingbourne