

LANGMEAD GROUP

Land Adjacent to Drove Lane,
Yapton, West Sussex

Preliminary Ecological Appraisal

- Extended Phase 1 Habitat Survey
- Protected Species Assessment

Approved By: Mark Vivian

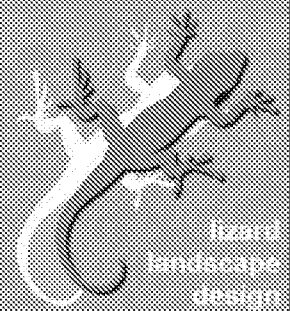
Signed:

Position: Principal Ecologist

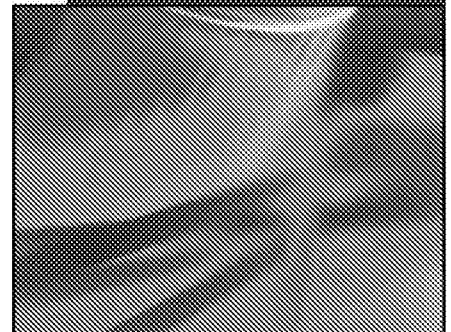
Date: 29th September 2016

September 2016 – Planning Issue

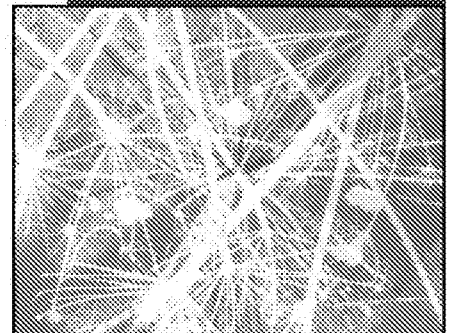
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Landscape Architecture



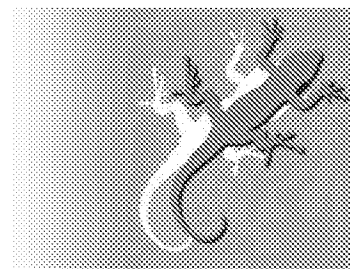
Environmental Design



Landscape Planning

Lizard Landscape Design

Lizard Landscape Design and Ecology



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SUMMARY

Langmead Group has commissioned Lizard Landscape Design and Ecology to undertake a Preliminary Ecological Appraisal (PEA) and Protected Species Assessment (PSA) of the land proposed for development adjacent to Drove Lane, Yapton, West Sussex (Grid Reference: SU 97410 03209 – hereafter referred to as the 'site'). A site survey was undertaken on 13th September 2016 to appraise the existing ecological resource within the site and the surrounding area. The field survey data and analysis contained within this report was undertaken and prepared by Mark Vivian (BSc MSc MCIEEM; Principal Ecologist; Lizard Landscape Design and Ecology; Natural England Licence Holder: Bats, GCN and Dormice).

The Preliminary Ecological Appraisal (PEA) has identified arable, arable field margins, native hedgerow and mixed hedgerow within the site boundary. The site is comprised of a large, continuous arable field, c. 11.50 hectares with very thin field margins. The width of the field margins is mitigated somewhat by their vast extent (c. 1,395 metres), however, the linear layout is suggested to reduce ecological functionality.

The site is considered to represent 'low' ecological value and it is considered that there would be little ecological impediment to the progression of the development proposals.

Perhaps the most important issue pertaining to ecology on-site is the potential for ecological enhancement. The amount of land that is available on-site, for development and habitat creation (amongst other things), highlights the potential for the development proposals to impart a positive ecological impact, given an appropriate management strategy and regime.

There are, however, three potential issues relating to protected species of reptiles, breeding birds and bat flight paths. The presence of reptiles within boundary vegetation was deemed likely, therefore, relevant species data for reptiles should be collected (a reptile survey was established 20th September 2016). Any vegetation clearance of woody species, particularly along the eastern site boundary required to facilitate the development proposals, should take place outside of the bird breeding season March-August. A 'Dark Corridor' should be implemented along the eastern boundary to safeguard bat flight paths and potential roosts.

It is recommended that a standalone Habitat Enhancement Strategy is completed to compliment the development proposals and maximise the potential for ecological gain.

Points to consider have been outlined in Section 7.0 – Habitat Enhancement.

LANGMEAD GROUP

LAND ADJACENT TO DROVE LANE, YAPTON, WEST SUSSEX

PRELIMINARY ECOLOGICAL APPRAISAL

LLD1055.DroveLane,Yapton.PEA.Rev00.29.09.16

1.0 INTRODUCTION

- 1.1 Langmead Group has commissioned Lizard Landscape Design and Ecology to undertake a Preliminary Ecological Appraisal (PEA) and Protected Species Assessment (PSA) of the land proposed for development at Drove Farm, Drove Lane, Yapton, West Sussex (Grid Reference: SU 97410 03209 – hereafter referred to as the 'site').
- 1.2 A site survey was undertaken on 13th September 2016 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 Phase 1 Habitat Survey protocol to identify the existing habitats. In addition, a PSA 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 Mark Vivian (BSc MSc MCIEEM; Principal Ecologist; Lizard Landscape Design and Ecology; Natural England Licence Holder: Bats, GCN and Dormice).

Site Information

- 1.4 The site is comprised of one large, continuous arable field measuring c. 11.50 hectares and one small, pastoral field measuring c. 0.83 hectares, separated by a footpath, native hedgerow and bramble. The site as a whole is fairly flat in and around 5.00 metres above sea-level throughout its extent.
- 1.5 The arable field comprises one agricultural unit producing a monoculture of an unspecified, yield crop. At the time of survey, the entire area was comprised of arable stubble, with the exception of the boundary vegetation. The field was ploughed and seeded, on 20th September 2016, in preparation for the coming growth season. The site had been optimised for agricultural output with very small field margins and zero set-aside land.

- 1.6 A small dike, incorporating a shallow, dry ditch and raised earth bund, has raised the profile of the site along the north-western/western boundary by approximately 1.50 metres. The effect is to level the arable field across its extent and facilitate modern farming techniques. The dike has been colonised by grassland, that is regularly mown by the tenant farmer, with two small, isolated holly shrubs.
- 1.7 The pastoral field comprises the north/north-eastern boundary of the site and is comprised entirely of improved grassland. A species-poor, native hedgerow, that runs parallel to a public footpath, separates the two fields. The footpath extends eastward, toward The Pines, Yapton, until the north-east corner of the site. Very thin arable margins comprise the north-eastern/eastern corner of the site, bordering a row of housing units.
- 1.8 South of the housing units, a second footpath lines the remainder of the south-eastern/eastern boundary of the site. There is a dry ditch that has been colonised by continuous, dense vegetation, including grassland, bramble and bracken, with vegetative indicators suggesting water is not retained. A further footpath lines the southern boundary which separates the large arable field from another large arable field.

Surrounding Landscape

- 1.9 The landscape surrounding the site, to the west, south, east and north-east, is dominated by arable land uses. The landscape to the north-west is dominated by the village of Yapton. The landscape character does very little to augment the ecological character of the context in which the site is located. There are two drainage channels located to the south-east of the site, however, these drain intensively farmed arable fields and are not considered suitable for protected species of amphibian.

Development Proposals

- 1.10 The development proposals at present have not been defined, however, this report has been based on a rough guide of 50% of the available land being developed. The concept underpinning this analysis has been the 'low ecological value' of the existing site and the large potential for ecological enhancement.

2.0 SCOPE OF THE SURVEY

2.1 The aim of the Preliminary Ecological Appraisal 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
- 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 the 13th September 2016 and the site subjected to a JNCC 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 (Figure 1); Target Notes (Table 1); and Species Lists for Habitat Parcels (Table 2).

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 JNCC 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 JNCC Phase 1 Habitat Survey methodology.

- 3.4 Habitats within and immediately adjacent to the site 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, and relevant, within 500.00 metres of the proposed development.
- 3.5 The results are summarised and accompanied in large part by photographic evidence contained in Appendix No.1 – 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 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 within the Site Special Scientific Interest (SSSI) Impact Zone for three sites: Climping Beach, Felpham and Bognor Reef. Climping Beach measures approximately 65.80 hectares and is located 4.37 kilometres south-east of the site; Felpham measures approximately 1.90 hectares and is located 4.28 kilometres south-west of the site; and Bognor Reef measures 64.40 hectares and is located 5.65 kilometres south-west of the site.

- 4.1.3 Climping Beach SSSI has been notified because it contains two nationally rare habitat types, vegetated shingle and sand dune. There is also a notable intertidal zone which supports a wintering population of sanderling of European significance. Due to the distances involved, the development proposals are considered highly unlikely to detract or impinge upon the citation criteria of this SSSI.
- 4.1.4 Felpham SSSI has been notified because of the significant geological interest that is found within its boundary. It contains one of only three known Palaeocene aged flora within the UK and contains the most seeds and fruit specimen. Due to the discrepancy between existing land-uses, the potential for conflict to arise between the two sites is considered 'negligible'.
- 4.1.5 Bognor Reef SSSI has been notified because there is an extensive area of vegetated shingle, an old sand dune and a long stretch of foreshore with significant geological interest. The due to the distances between the two sites, the potential for conflict to arise between the two sites is considered 'negligible'.
- 4.1.6 The development proposals would qualify for consideration by the Local Planning Authority (LPA) as they represent a residential development outside of existing settlements / urban areas, with a total net gain in residential units, within a SSSI Risk Impact Zone. The distances, intervening habitat / developments and discrepancy of habitat render the likelihood of a negative interaction unlikely.
- 4.1.7 The South Downs National Park (SDNP) is located 3.10 kilometres north of the development 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 Sites of Special Scientific Interest 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 to the public. The relatively large distance between the site and the SDNP has been taken to infer that the defining criteria of the SDNP would not be altered.

UK Priority Habitat

- 4.1.8 Within 2.0 kilometres of the site there are BAP Priority Habitats of Coastal and Floodplain Grazing Marsh and Deciduous Woodland. The development does not propose to remove any significant areas of these habitats.

4.2 Field Study

- 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. Target Notes are listed in Table No. 1 and a brief prescriptive species list for habitat parcels is provided in Table No. 2.

- 4.2.2 Habitats within the development site area include:

- Arable
- Arable Field Margins
 - Improved Grassland
 - Tall Ruderal
 - Scrub
 - Native Hedgerow (Intact)
 - Native Hedgerow (Defunct)
 - Mixed Hedgerow
 - Scattered Trees
 - Bracken

- 4.2.3 The site is comprised of a large, continuous arable field measuring approximately 11.50 hectares and one small, pastoral field measuring c. 0.83 hectares, separated by a footpath, native hedgerow and bramble. The site as a whole is fairly flat and in-and-around 5.00 metres above sea-level throughout its extent.

- 4.2.4 The arable field comprises one agricultural unit producing a monoculture of an unspecified, yield crop. At the time of survey, the entire area was comprised of arable stubble, with the exception of the boundary vegetation. The site had been optimised for agricultural output with very small field margins and zero set-aside land (refer to Photograph No. 1-4; Appendix No. 1 – Site Photographs). The field was ploughed and seeded, on 20th September 2016, in preparation for the coming growth season.

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- 4.2.5 A small dike, incorporating a shallow, dry ditch and raised earth bund, has raised the profile of the site along the north-western boundary by approximately 1.50 metres. The effect is to level the arable field across its extent and facilitate modern farming techniques. The dike has been colonised by improved grassland, that is regularly mown by the tenant farmer, with two small, isolated holly shrubs (refer to Photograph No. 1&4; Appendix No. 1 – Site Photographs).
- 4.2.6 The northern holly specimen was considered to possess ‘negligible’ bat roost potential. There were at least three old wounds on the main scaffold, however, these were completely occluded with no suitable features for bat roosting. Elder and bramble, in addition to holly, were present in the southern scrub thicket, however, this feature was also considered to possess ‘negligible’ bat roost potential. Again, there were a few occluded wounds but nothing viable as a bat roost feature.
- 4.2.7 The grassland comprising the vast majority of the western boundary was considered to be improved with a total of 21 species recorded but overwhelming dominance of perennial rye-grass. The size of individual species was considered to be high and probably the result of fertiliser leaching from the adjacent arable field. There were numerous small mammal burrows and signs of bank vole activity within the raised earth bund. The grassland, despite being florally impoverished, was dense and continuous and potentially offers suitable refuge habitat for widespread reptiles, such as slow worm and grass snake.
- 4.2.8 The native hedgerow, delineating the southern (arable) field from the northern (pastoral) field, was comprised of hawthorn with a dominant common nettle ground layer (refer to Photographs No. 7-9; Appendix No. 1 – Site Photographs). The hedgerow was intact from its north-western corner for approximately 165.00 metres where it becomes defunct, and filled-in by bramble, until the north-eastern corner of the site (refer to Photograph No. 8; Appendix No. 1 – Site Photographs).
- 4.2.9 The dominance of common nettle on the ground layer indicates nutrient-enrichment, which may again be the result of fertiliser application to the adjacent field, however, the presence of the footpath adds a further, more localised, form of nutrient input as the area is popular with dog-walkers.

- 4.2.10 The northern field was comprised of improved grassland, which it is believed is grazed by domestic livestock (sheep) (refer to Photographs No. 5&6; Appendix No. 1 – Site Photographs). The entire area was comprised of lush green grass, perennial rye-grass, with a negligible contribution of forbs. The area was separated from the B2233 by a small, metal fence only.
- 4.2.10 The eastern / north-eastern corner of the arable field had very small margins (refer to Photographs No. 10&11; Appendix No. 1 – Site Photographs) with a mixed, hedgerow. There was a mature hawthorn adjacent to the north-eastern corner, on neighbouring land, that exhibited low bat roost potential.
- 4.2.11 The eastern boundary was lined with a dry ditch that was heavily vegetated (refer to Photograph No. 12-14; Appendix No. 1 – Site Photographs). A public footpath runs adjacent to the dry ditch and there is evidence of human disturbance caused by the high human pressure, e.g. dog litter bags. The vegetation dominating the dry ditch did not show a freshwater / marginal influence, with a species composition indicative of high-nutrient, acidic conditions. The depression created by the dry ditch would appear to have created a nutrient sink that has been exacerbated by the adjacent land-use. Nonetheless, the vegetation is continuous, herbaceous and dense and would likely offer refuge to widespread reptiles, such as common lizard and slow worm.
- 4.2.12 The western edge of the footpath is lined by native hedgerow and scattered trees consisting mainly of hawthorn through the northern extent and hornbeam and hazel through the southern extent. Two mature oak trees show high potential for roosting bats, however, these lie outside of the site boundary.

5.0 EVALUATION

- 5.1 The Preliminary Ecological Appraisal (PEA) has identified arable and arable field margins within the site boundary. The arable field margins were comprised of improved grassland (rough and grazed), native hedgerow (intact), tall ruderal (common nettle), native hedgerow (defunct), scrub (bramble), mixed hedgerow, bracken and scattered trees (native, deciduous). The site is comprised of a large, continuous arable field, consisting of arable stubble, at the time of survey, measuring approximately 11.50 hectares with very thin field margins. The width of the field margins is mitigated somewhat by their vast extent (c. 1,395 metres), however, the linear layout is suggested to reduce ecological functionality.
- 5.2 Intensively-managed arable land, such as the site, is considered to offer amongst the least ecological value of all common land-use practices within the UK. First and foremost, arable land is impermanent meaning natural process do not have time to develop. This curtails ecological progression with the habitat returned to the null point two/three times per year. Most modern crops requirement to have aerated soil necessitates the ploughing of the land which further compounds the cycle.
- 5.3 This simple fact excludes virtually all higher taxa, as the ecosystem exists for only a few months each year, and totally obviates natural succession. The effect is to predispose the land to early seral specialists such as pioneer species and mobile invertebrates, with few exceptions. Modern farming practices have, however, further advanced the potential yield of most crops to the disadvantage of even the early seral colonists.
- 5.4 The aim of arable farming is to yield the maximum amount of the target crop from the minimum amount of area. In order to achieve this the land is ploughed, seeded and managed to form a monoculture. By definition, floral diversity within a monoculture is significantly impoverished, and as vegetation forms the basis of all food webs, the utility it presents to higher trophic levels is resultantly diminished.

- 5.5 Monocultures are inherently unstable ecosystems; having created the ideal conditions for the proliferation of their pest species they are prone to failure in the absence of human intervention. Standard farming practices employ the use of pesticides to control the population of pest species. Whilst necessary for ensuring viability, and despite the advancement of the science over the past 50 years, modern science lacks the refinement to affect the target species only. The use of pesticides often has knock-on disadvantages for wildlife by eradicating non-target species such as pollinators. In addition to the physical eradication of biodiversity that is benign to agriculture, the use of pesticides can, therefore, also affect important ecological processes, often referred to as ecosystem services.
- 5.6 In an effort to mitigate the deleterious effects of modern farming upon biodiversity, land owners can apply for subsidies to 'set-aside' land. Government grants, organised within tiers, will be paid in exchange for a certain percentage of the land being omitted from agricultural production and managed sensitively for wildlife. Whilst not compensating, in biodiversity terms, for the ecological impact of modern agriculture, success has been documented in mitigating its effects and species such as the RSPB Red Listed skylark *Alauda arvensis*, are known to be beneficiaries.
- 5.7 The land on-site has clearly not been entered in to any kind of stewardship scheme and the arable field margins on-site are not set-aside land. The site had been optimised for agricultural output with very small field margins which has been used to infer that the detrimental environment for biodiversity, created by agriculture, has not been mitigated.
- 5.8 The land on site (>99%) is dominated by arable land and the existing arable field margins would do little to offset its detriment to ecology. For the reasons provided in the preceding paragraphs, the site is considered to represent 'low' ecological value. As such, it is considered that there would be little impediment, by way of ecology, to the progression of the development proposals.

- 5.9 Perhaps the most important issue pertaining to ecology on-site is the potential for ecological enhancement. The amount of land that is available on-site, for development and habitat creation (amongst other things), highlights the potential for the development proposals to impart a positive ecological impact, given an appropriate management regime. There are, however, three potential issues relating to protected species of reptiles, breeding birds and bat flight paths.

Reptiles

- 5.10 The presence of reptiles has been deemed likely within the rough grassland and other herbaceous vegetation that comprises the margins of the large, arable field (refer to TN01-03; Table No. 1 & Figure No. 1 & Photographs 1, 4, 7, 8, 9, 12, 13 & 14; Appendix No. 1 – Site Photographs). The arable margins extend for a long way around the site and connect to similar habitat within the local and wider landscape. It is, therefore, quite feasible for the boundary vegetation to support populations of widespread reptiles such as slow worm, common lizard and / or grass snake. It is recommended to conduct a Presence / Likely Absence and Population Class Assessment for Reptiles (a survey was established by Mark Vivian MCIEEM on-site 20th September 2016).

Breeding Birds

- 5.11 The hedgerow, scrub and scattered trees that line the northern and eastern boundaries of the arable field are likely to be utilised by common, widespread birds for nesting purposes. Any vegetation clearance that was required to facilitate the development proposals should take note of the bird breeding season (March-August). Care would have to be taken to avoid damage to active bird nests which are defined by the presence of eggs, and the higher developmental stages.

Bats – Flight Paths

- 5.12 It is recommended that the development proposals create a 'Dark Corridor' on the existing eastern boundary of the arable field. There is a long-established, native hedgerow immediately east of the site boundary that contains scattered trees, most notably various mature pedunculate oak specimen. Two pedunculate oak showed moderate bat roost potential and one mature hawthorn showed low bat roost potential (refer to TN 06 & 08; Figure No. 1 – Site Habitat Plan), however, these are outside of the site and as yet are unlikely to require felling to facilitate the development proposals.

- 5.13 Assuming it is agreed to maintain the existing, natural light levels in this area, and the trees do not require felling, it is surmised that the disturbance caused by local, albeit large-scale, development will not functionally disturb any bats using these features for roosting. Based on these provisos, further survey work for bats is not deemed necessary.
- 5.14 Due to the age of the native vegetation adjacent to the eastern boundary, the invertebrate assemblage is likely to attract bats. The linear layout of this feature may also add value to the habitat for bats increasing the likelihood of its usage. A 'Dark Corridor' will ensure that the development proposals do not disrupt bat flight paths and / or alter the local distribution of bats.

Amphibians

- 5.15 There are a series of drainage ditches located to the south-east of the site, however, these were considered suboptimal for protected species of amphibian such as great crested newt and common toad.
- 5.16 The ditches drain intensively farmed arable land and are likely to contain large amounts of nutrients, and possibly pesticide. The eutrophied water will not provide a suitable environment for the development of a healthy food web that could support viable populations of sensitive amphibians. Potential insecticide leachate would also curtail the development of the invertebrate community compounding the detrimental freshwater conditions. The drainage ditches are also heavily shaded by the adjacent terrestrial vegetation.
- 5.17 All in all, the local amphibian population is likely to be severely impoverished and as such the development is unlikely to result in a noticeable negative change. What is clear, however, is that the local landscape would benefit immensely from the creation of freshwater habitat on-site, possibly incorporated into a Sustainable Drainage System (SuDS).

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Reptiles

- 6.1.1 The presence of reptiles on-site was deemed likely within the arable field margins along the western, northern and eastern site boundaries of the large arable field.
- 6.1.2 Relevant species data for reptiles should be collected by conducting a Population Class Assessment between the months of March-October. A proportionate course of Avoidance/Mitigation/Compensation/Enhancement can then be devised. A Reptile Survey was established on 20th September 2016.

6.2 Breeding Birds

- 6.2.1 Any vegetation clearance of woody species, particularly along the northern and eastern boundaries to the arable field, required to facilitate the development proposals, should take place outside of the bird breeding season March-August (inclusive).
- 6.2.2 If this proves unfeasible, the advice of a Suitably Qualified Ecologist should be obtained.

6.3 Bat Flight Paths

- 6.3.1 It is recommended to implement a 'Dark Corridor' along the eastern boundary of the existing arable field to ensure that bat flight paths are not disrupted.

7.0 HABITAT ENHANCEMENT

7.1 There is huge potential within the development proposals to enhance the existing habitat for biodiversity.

7.2 It is recommended that a standalone Habitat Enhancement Strategy is developed to ensure that the development proposals achieve ecological net gain.

7.3 Points to consider include:

- The northern and eastern sections of the site are considered best for ecological enhancement. These areas are closest to the varied habitat within the village of Yapton and other ecological features. The southern section of the site is isolated from good source habitat.
- The hedgerow along northern boundary of the arable field should be retained and enhanced, if possible.
- The creation of freshwater habitat, possibly incorporated into a SuDS design, would benefit the local amphibian assemblage and create a range of knock-on benefits for biodiversity.
- There is ample opportunity to create areas of rough, species-rich grassland that will benefit reptiles and local Priority Habitat initiatives.
- A native tree component, to the post-development site, that mimicked that of the adjacent village of Yapton, would benefit local bat and bird populations. Good examples include:
 - Pedunculate Oak *Quercus robur*
 - Hornbeam *Carpinus betulus*
 - Rowan *Sorbus aucuparia*
 - Silver Birch *Betula pendula*
 - Hawthorn *Crataegus monogyna*
 - Blackthorn *Prunus spinosa*
 - Willows *Salix* sp.
 - Crab Apple *Malus sylvestris*
 - Butterfly Bush *Buddleia davidii*
 - Elder *Sambucus nigra*
 - Guelder Rose *Viburnum opulus*
 - Holly *Ilex aquifolium*
 - Hazel *Corylus avellana*

Table No. 1 – Target Notes (TN) for Preliminary Ecological Appraisal (PEA) and Protected Species Assessment (PSA); Land Adjacent to Drove Lane, Yapton, West Sussex

TN	Description	Protected Species	Potential	Photo No.
TN 01	Potential reptile habitat along the western boundary of the site.	Reptiles	Moderate	1, 4
TN 02	Potential reptile habitat along the hedgerow boundary delineating the northern and southern fields.	Reptiles	Moderate	7-9
TN 03	Potential reptile habitat along the hedgerow boundary delineating the northern and southern fields.	Reptiles	Moderate	12-14
TN 04	Native hedgerow boundary delineating the northern and southern fields.	Breeding Birds	High	7-9
TN 05	Mixed hedgerow at north-east corner of arable field.	Breeding Birds	High	11
TN 06	Mature hawthorn at NE corner of the arable field.	Bats	Low	NP
TN 07	Native hedgerow along southern section of eastern boundary.	Breeding Birds	High	15
TN 08	Large oak trees with potential for bats.	Bats	Moderate	NP

**Table No. 2 – Species List – Preliminary Ecological Appraisal – Land Adjacent
to Drove Lane, Yapton, West Sussex**

Improved Grassland – Western Site Boundary

Common Name	Scientific Name	DAFOR
Perennial rye-grass	<i>Lolium perenne</i>	D
Cock's foot	<i>Dactylis glomerata</i>	O
Bird's foot trefoil	<i>Lotus corniculatus</i>	O
Dove's foot crane's bill	<i>Geranium molle</i>	O
Groundsel	<i>Senecio vulgaris</i>	O
Ragwort	<i>Senecio jacobaea</i>	O
Pineapple-weed	<i>Matricaria discoidea</i>	O
Common sorrel	<i>Rumex acetosa</i>	O
Dandelion	<i>Taraxacum officinalis</i>	O
Yarrow	<i>Achillea millefolium</i>	O
Greater plantain	<i>Plantago major</i>	O
Spear thistle	<i>Cirsium vulgare</i>	O
Common nettle	<i>Urtica dioica</i>	O
Hogweed	<i>Heracleum sphondylium</i>	O
Cow parsley	<i>Anthriscus sylvestris</i>	O
Broad-leaved doc	<i>Rumex obtusifolius</i>	O
Prickly sow-thistle	<i>Sonchus asper</i>	O
Ground ivy	<i>Glechoma hederacea</i>	O
Field speedwell	<i>Veronica persica</i>	O
Red dead-nettle	<i>Lamium purpureum</i>	O
Tree mallow	<i>Malva sylvestris</i>	O

Native Hedgerow – Boundary Between N&S Fields

Common Name	Scientific Name	DAFOR
Hawthorn	<i>Crataegus monogyna</i>	D
Elder	<i>Sambucus nigra</i>	O
Holly	<i>Ilex aquifolium</i>	O
Common nettle	<i>Urtica dioica</i>	D
Bramble	<i>Rubus fruticosus</i> agg.	LD
Ivy	<i>Hedera helix</i>	F
Hedge bindweed	<i>Calystegia sepium</i>	F
Ground ivy	<i>Glechoma hederacea</i>	F
Hogweed	<i>Heracleum sphondylium</i>	O
Red dead-nettle	<i>Lamium purpureum</i>	O
Cock's foot	<i>Dactylis glomerata</i>	O
Perennial rye-grass	<i>Lolium perenne</i>	O

Cow parsley	<i>Anthriscus sylvestris</i>	O
Creeping buttercup	<i>Ranunculus repens</i>	O

Non-Native, Mixed Hedgerow – North-Eastern Site Boundary

Common Name	Scientific Name	DAFOR
Hawthorn	<i>Crataegus monogyna</i>	D
Cherry laurel	<i>Prunus laurocerasus</i>	LD
Ivy	<i>Hedera helix</i>	LD
Cleavers	<i>Galium aparine</i>	F
Garlic mustard	<i>Allaria petiolate</i>	F
Bramble	<i>Rubus fruticosus</i> agg.	F
Common nettle	<i>Urtica dioica</i>	F

**DAFOR SCALE: D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare;
L – Locally**

Appendix No. 01 – Preliminary Ecological Appraisal – Site Photographs

APPENDIX NO. 1 - SITE PHOTOGRAPHS



proposed development site.



development site.

LANGMEAD GROUP

LAND ADJACENT TO DROVE LANE, YAPTON, WEST SUSSEX

PRELIMINARY ECOLOGICAL APPRAISAL

LLD1055.DroveLane,Yapton.PEA.Rev00.27.09.16

APPENDIX NO. 1 - SITE PHOTOGRAPHS



development site.



development site.

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Photograph No. 7 - Species-poor hedgerow that runs parallel to the footpath separating the arable

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Photograph No. 8 - Section of species-poor hedgerow, shown above, that becomes defunct and

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turbed due to the high use of the footpath, particularly by local dog-walkers.



in terms of biodiversity.

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Photograph No. 1 in terms of biodiversity. The exception being the presence of the native, hedgerow shown in this photograph.



Photograph No. 12 - The eastern boundary of the site is comprised of a well-vegetated, dry ditch that may provide habitat for protected species of reptile. The vegetation itself was common, widespread and indicative of high-nutrient conditions.

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Photograph No. 13 - The footpath that runs parallel to the south-eastern/eastern site boundary is bordered by continuous, dense vegetation.



Photograph No. 14 - Well-vegetated dry ditch that lines the eastern site boundary. There were no vegetative indicators that the feature retained water for any length of time. Vegetative cues indicated high nutrient conditions.

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Photograph No. 15 - Hedgerow along the southern section of the eastern boundary. This area was characterised by hornbeam and hazel.



Photograph No. 16 - The southern boundary of the site was comprised of a short grassy footpath

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