



ECOLOGICAL IMPACT ASSESSMENT

Coldharbour Farm, Emsworth, Hampshire

Planning Issue

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned to complete an Ecological Impact Assessment of the proposed development at Coldharbour Farm, Emsworth (*Grid Reference: SU 745 065– hereafter referred to as 'the site'*). A Preliminary Ecological Appraisal (*PEA*) was undertaken on 10th June 2019, to appraise the existing ecological resource within the site and the surrounding area. The following Phase 2 Protected species surveys were recommended and subsequently undertaken:

- *Reptile Survey;*

The development site is formed of common, widespread habitats. Floral diversity in general was relatively low, particularly within the western field parcel, with the bulk of the site dominated by grasses.

The proposals will not have a derogatory effect upon any surrounding statutory or non-statutory protected site, or any adjacent habitats. A series of mitigation measures have been detailed to avoid the proposals impacting upon these areas.

There will be no impacts upon any European Protected Species as a result of this development. The lighting scheme shall be designed to avoid light spill into mature hedge / treelines to ensure the continued ecological functionality of these areas as bat foraging / commuting routes.

Detailed reptile surveys undertaken during the summer of 2019 revealed the likely absence of reptiles within the site.

The site offers suitable nesting habitat for small passerines in the form of dense scrub and hedgerows. Removal of any of these areas will be undertaken outside the nesting season or following inspection to ensure works do not contravene The Wildlife and Countryside Act 1981 (as amended).

The impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in no net loss of biodiversity in line with national planning policy guidance.

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned to complete an Ecological Impact Assessment of the proposed development at Coldharbour Farm, Emsworth (*Grid Reference: SU 745 065– hereafter referred to as 'the site'*).

1.2 A Preliminary Ecological Appraisal (PEA) was undertaken on 10th June 2019, to appraise the existing ecological resource within the site and the surrounding area. The following Phase 2 Protected species surveys were recommended and subsequently undertaken:

- *Reptile Presence / Absence Survey;*

1.3 The data from the above surveys were then used to fully assess the impacts of the proposals. The field survey data and analysis contained in this report was undertaken and prepared by Catherine O'Reilly (MCIEEM, Senior Ecologist; Lizard Landscape Design and Ecology). The report has been reviewed by George Sayer (BSc(Hons) PgDip, Project Ecologist; Lizard Landscape Design and Ecology).

Site Information

1.4 The site is formed of 2no. small fields which were previously utilised for grazing enclosed by scrub and treelines. The site covers 1.9Ha to the south-west of Emsworth Recreation Ground and is bordered by the A27 to the south, Shell petrol station to the west, farmland to the north and housing and the recreation ground to the east.

Surrounding Landscape

1.5 The site is located to the urban edge of Emsworth, with farmland extending for c. 1.0km to the north and west; this land however is to form part of a large strategic development which will infill between Emsworth and Denvilles. Land to the east and south is formed of high-density residential housing before reaching the coast, approximately 1.2km south.

1.6 There are no waterbodies (*on the nearside of major barriers*) located within 500.0m of the site area.

Development Proposals

- 1.7 It is understood that the proposals include a new residential development with access from Coldharbour Farm Road to the east.

Aims of the Survey

- 1.8 The aim of this ecological appraisal is;
- *To identify habitats and protected species present, and any other features of ecological value;*
 - *Identify any potential ecological constraints;*
 - *Identify impacts of the proposed development and set out appropriate avoidance, mitigation and compensation measures.*
 - *To provide suggestions for enhancements to be incorporated into the scheme.*

2.0 PLANNING POLICY AND LEGISLATION**Legislation**

- 2.1 Legislation relating to wildlife and biodiversity of particular relevance to this EcIA includes:
- *The Conservation of Habitats and Species Regulations 2017*
 - *The Wildlife and Countryside Act 1981 (as amended)*
 - *The Natural Environment and Rural Communities (NERC) Act 2006*

- 2.2 This above legislation has been addressed, as appropriate, in the production of this report.

National Policy

- 2.3 The *National Planning Policy Framework (NPPF) 2019* sets out the government planning policies for England and how they should be applied. *Chapter 15: Conserving and Enhancing the Natural Environment* states that development should 'minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.'

- 2.4 The Government Circular 06/2005, which is referred to by the NPPF, provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

Local Planning Policy

- 2.5 The Havant Borough Core Strategy 2011 states that development will only be permitted where:
- Natural features e.g. woodland, streams, trees and hedgerows are protected;
 - Schemes provide new landscape works that integrate successfully with the local environment and existing natural features, using local materials and plant species;
 - There is no harmful effect on nature conservation within the Chichester and Langstone Harbour SSSIs and SPA, Solent Maritime SAC and Ramsar site, or any SINC's and Local Nature Reserves.

3.0 METHODOLOGY

3.1 Desk Study

- 3.1.1 The Multi-Agency Geographical Information Centre (*MAGIC*) was consulted for information on surrounding designated sites, priority habitats, protected species and Natural England Licence applications within 2.0 km of the site. The data search was conducted on 12th June 2019.

3.2 Field Survey

- 3.2.1 A preliminary ecological appraisal was undertaken on 10th June 2018, 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).

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. A summary description of the habitat within the site following the *Phase 1 Habitat Survey Methodology* is presented in Section 4.0. 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 The results are summarised and accompanied in large part by photographic evidence.

3.3 Ground-Level Bat Roost Assessment

3.3.1 A Ground-level Bat Roost Assessment of trees on site was undertaken on 10th June 2018 by an experienced, licenced bat surveyor.

3.3.2 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.*

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

Table No. 01 – Bat Roost Suitability Guidelines (BCT, 2016)

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

3.4 Reptile Survey

- 3.4.1 25no. artificial reptile refugia were placed within areas of suitable habitat on 13th June 2019 and allowed to settle for 15no. days before commencement of the survey.
- 3.4.2 7no. reptile survey visits were undertaken between 28th June and 31st July 2019. During each visit the species, sex, age and location of any reptiles encountered was recorded.
- 3.4.3 Surveys were undertaken during recommended times (08:00–11:00 and 16:00–18:30) with suitable weather conditions for surveying reptiles (*guidelines recommend temperatures 9-18° C with intermittent or hazy sunshine during warm days*). Weather conditions recorded at each survey visit are shown in Table No. 2 below.

Table No. 02 – Details of Reptile Survey Visits

Visit	Date	Time	Weather Conditions
1	28.06.19	16:00	18°C, WF1, Sunny with Cloudy Spells.
2	03.07.19	09:30	17°C, WF1, Sunny.
3	09.07.18	08:00	18°C, WF2, Sunny with Cloudy Spells.
4	11.07.19	09:30	19°C, WF2, Hazy sunshine.
5	15.07.19	08:45	15°C, WF0, Clouds with Sunny Spells.
6	23.07.19	06:30	15°C, WF0, Sunny.
7	31.07.19	09:00	18°C, WF2, Sunny with Cloudy Spells.

Evaluation Methodology

- 3.4.1 A population size class category has been derived using guidance provided by the *Key Reptile Site Register Mechanism (Froglife – Advice Sheet 10)*, designed to promote the protection of key reptile areas.
- 3.4.2 The criteria for key reptile site selection include:
- 1) supports 3 or more reptile species;
 - 2) supports 2 snake species;
 - 3) supports an exceptional population of one species (see Table No. 02);
 - 4) supports an assemblage of species scoring at least 4 (see Table No. 02);
 - 5) supports a local rarity or even adder with low population score.
- 3.4.3 The population size classes used in this instance are provided in *Froglife – Advice Sheet 10* and displayed in Table No. 03.

Table No. 03 – Population Scores for Selection of Key Reptile Sites

Species	'Low' Score 1	'Good' Score 2	'Exceptional' Score 3
Adder	< 5	5 – 10	> 10
Grass Snake	< 5	5 – 10	> 10
Common Lizard	< 5	5 – 20	> 20
Slow Worm	< 10	5 – 20	> 20

- 3.4.4 Figures in Table No. 03 refer to the maximum number of reptile adults seen by observation and / or under refugia by one person during one survey visit with artificial refugia placed at a maximum density 10 / ha.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Designated Sites

Statutory Protected Sites

- 4.1.1 MAGIC was consulted for details of statutory protected sites within 2.0km of the proposed development; these are detailed below.

Table No. 04 – Statutory Protected Sites

Site	Description	Location
Brook Meadow LNR	Grassland surrounded by woodland and streams, some of which support water vole as well as insects and birds.	0.5km SE
Chichester Harbour SSSI, RAMSAR, SPA (forms part of Solent Maritime SAC).	Internationally importance site for overwintering wildfowl and waders including Brent Geese and Bar-tailed Godwit.	1.1km S
Eames Farm LNR	An extensive area of coastal grazing marsh of importance for birds and plants.	1.6km SE
Warblington Meadow SSSI	An unimproved grazing marsh with rich flora.	1.8km SW

- 4.1.2 The site is located within the *Impact Risk Zone* of *Chichester and Langstone Harbours*; all planning applications (except householder) require the LPA to consult with Natural England regarding potential impacts on this protected site. Impacts are currently mitigated through developer contributions to the Solent Recreation Mitigation Strategy (SRMS).

Non-Statutory Protected Areas

- 4.1.3 *Sites of Importance for Nature Conservation (SINCs)* are designations applied to the most important non-statutory nature conservation sites. They are recognised by the *National Planning Policy Framework (2019)* and as such are material considerations when assessing planning applications. The following SINCs were identified within 1.0km of the site:

Table No. 05 – Non-Statutory Protected Sites

Site	Location
<i>Land West of Emsworth Recreation Ground</i>	<i>Adj. N</i>
<i>Lumley Meadow</i>	<i>0.6km SE</i>
<i>Emsworth Mill Pond</i>	<i>0.7km S</i>
<i>Brook Farm B</i>	<i>1.0km SW</i>

4.2 Habitats

- 4.2.1 Within 2.0 km of the site there are *Priority Habitats of Deciduous Woodland, Woodpasture and Parkland, Coastal and Floodplain Grazing Marsh, Traditional Orchard, Reedbed, Saline Lagoons and Lowland Dry Acid Grassland*. The site does not contain any areas of UK Priority Habitat.
- 4.2.2 Habitats within and adjacent to the land include:
- *Species-poor Semi-improved Grassland;*
 - *Tall Ruderal;*
 - *Scattered Scrub;*
 - *Dense / Continuous Scrub;*
 - *Dry Ditch;*
 - *Wet Ditch;*
 - *Scattered Trees;*
 - *Amenity Grassland;*
 - *Species-Poor Hedge;*
 - *Hard/bare Ground;*
 - *Broadleaved Woodland.*

Species-poor Semi-improved Grassland

- 4.2.3 The site is dominated by species-poor grassland which has not been grazed for an extended period resulting in a rank sward of c. 70cm. Bent (*Agrostis* agg.), meadow foxtail (*Alopecurus pratensis*), yorkshire fog (*Holcus lanatus*) and cocks-foot (*Dactylis glomerata*) grasses dominate the sward with areas of dominant creeping buttercup (*Ranunculus repens*), mayweed (*Tripleurospermum inodorum*), dock (*Rumex crispus*) and common fleabane (*Pulicaria dysenterica*). More diverse areas of the sward include cut-leaved cranesbill (*Geranium dissectum*), meadow buttercup (*Ranunculus acris*), red clover (*Trifolium pratense*), mallow (*Malva neglecta*) and birds-foot trefoil (*Lotus corniculatus*).

Tall Ruderal

- 4.2.4 Margins of the field support stands of broadleaf dock (*Rumex obtusifolius*), prickly sowthistle (*Sonchus asper*) and thistle (*Cirsium* sp.) with locally abundant ragwort (*Senecio jacobaea*).

Scattered Scrub

- 4.2.5 Scattered bramble (*Rubus fruticosus*) scrub is growing to the centre of the western field parcel.

Dense / Continuous Scrub

- 4.2.6 Dense stands of Bramble extend from the boundaries of the site and out from the central hedge / scrub line. These areas were impenetrable for further inspection.

Dry Ditches

- 4.2.7 A dry ditch runs north-south across the centre of the site. This ditch was heavily vegetated in places, showing that it rarely holds water for any significant period of time.

Wet Ditch

- 4.2.8 A shallow, flowing ditch runs along the eastern boundary of the site. The ditch was c. 7cm deep at the time of the survey and heavily vegetated with bramble and hawthorn (*Crataegus monogyna*) scrub at its northern end with hemlock water dropwort (*Oenanthe crocata*), watercress (*Nasturtium officinale*) and blue water speedwell (*Veronica anagallis-aquatica*) filling the channel to the southern section.

Scattered Trees

- 4.2.9 A single, mature oak tree is located to the north-western corner of the site. Adjacent the eastern boundary of the site are lime (*Tilia* sp.), ash (*Fraxinus excelsior*), London plane (*Platanus × acerifolia*), walnut (*Juglans regia*), turkey oak (*Quercus cerris*) and Norway maple (*Acer platanoides*).

Amenity Grassland

- 4.2.10 A small area of amenity grassland is located adjacent the site to the south-east. Creeping bent (*Agrostis stolonifera*) dominates with occasional creeping cinquefoil (*Potentilla reptans*), creeping buttercup (*Ranunculus repens*) and self-heal (*Prunella vulgaris*).

Species-poor Hedge

- 4.2.11 The northern and central boundaries are delineated by an outgrown hedgerow which is on average 8 meters tall. Hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*) and field maple (*Acer campestre*) are interspersed with elm (*Ulmus* sp.) and ash (*Fraxinus excelsior*).

Broadleaved Woodland

- 4.2.12 Land adjacent the southern and western boundaries of the site are comprised of small pockets of woodland. Ash, oak and field maple dominate with hazel (*Corylus avellana*) and hawthorn understorey.

4.3 Protected Species Assessment

Amphibians

Desk Study

- 4.3.1 There are 2no. records of Great Crested Newts within 2.0km of the site, in addition to records of common toad, common frog, smooth newt and palmate newt.

Site Assessment

- 4.3.2 The potential for GCN to be present within the site area is negated by the lack of suitable breeding ponds within 500.0m of the site. The ditch which runs along the eastern boundary has a constant flow and as such is considered unsuitable for breeding. The site is of **negligible value** to amphibians.

Reptiles

Desk Study

- 4.3.3 Slow worm (*Anguis fragilis*) and Adder (*Vipera berus*) have been recorded within 2.0km of the site. All species of UK reptile are protected against reckless or intentional killing or injuring under *The Wildlife and Countryside Act 1981 (as amended)*.

Site Assessment

- 4.3.4 Rank grassland, tall ruderal and scrub found within the site were considered to potentially support common, widespread reptile species such as slow worm and grass snake. Reptile surveys undertaken during the summer of 2019 however did not record any reptiles on site. The survey was undertaken in appropriate weather conditions, with visits carried out early in the day to ensure conditions were suitable therefore it is highly unlikely that any reptiles are present within the site area. The site is of **negligible value** to reptiles.

Bats

Desk Study

- 4.3.5 Common Pipistrelle (*Pipistrellus pipistrellus*); Soprano Pipistrelle (*Pipistrellus pygmaeus*), Brown Long-eared bats (*Plecotus auritus*) and Daubenton's (*Myotis daubentonii*) bats have been recorded within 2.0km of the site.

Site Assessment

- 4.3.6 The trees on site were assessed for their bat roost potential by a trained, licenced surveyor. The majority of trees on site are semi-mature and have no discernible potential roost features. 1no. tree on site was assessed as offering some suitability.

Table no. 06 – Trees with potential roost features

Ref.	Description	Category
T01	Mature oak tree to the north-western corner of the site. The tree contained no obvious features but is of a size and age which could support a small number of bats. This tree is to be retained within the scheme.	Low

- 4.3.7 The tree belts to the south and west are likely to offer foraging opportunity for light-tolerant species such as pipistrelle. Given the abundance of similar habitat in the wider landscape the site is of **site value** to foraging bats.

Dormouse*Desk Study*

- 4.3.8 There are a small number of records of dormice within 2.0km of the site.

Site Assessment

- 4.3.9 The hedgerows which surround the site are species-poor and lack the diversity and structure to provide optimal dormouse habitat. The isolation of the site from suitable areas of habitat in the wider environment further negates the site's suitability for supporting dormice. The site is of **negligible value** to dormice.

Badger*Desk Study*

- 4.3.10 Badgers are known to be present within 1.0km of the site.

Site Assessment

- 4.3.11 No evidence of badger such as tracks, snuffle holes or latrines were recorded anywhere within or immediately adjacent to the site. The area is considered to be of **negligible value** to badgers, however badgers may occasionally commute across the site.

Water Vole / Otter*Desk Study*

- 4.3.12 A small number of records of water voles exist within 2.0km of the site, the nearest being 0.8km east. No records of otter exist.

Site Assessment

- 4.3.13 The site offers no suitable habitat for water vole or otter; ditches within the site were very shallow or dry at the time of the survey and were heavily shaded by dense scrub with no favoured emergent vegetation present. The construction site is of **negligible value** to water vole and otter.

Breeding Birds*Desk Study*

- 4.3.14 Numerous records of bird species exist within 2.0km of the site, the majority of which are associated with Chichester Harbour.

Site Assessment

- 4.3.15 Optimal nesting habitat is limited to the surrounding hedge / tree lines. No evidence of ground nesting birds such as skylark was noted on site. The area overall is likely to be of **site value** to breeding / foraging birds.

Wintering Birds*Desk Study*

- 4.3.16 Numerous records of bird species exist within 2.0km of the site, the majority of which are associated with Chichester Harbour.

Site Assessment

- 4.3.17 The sward within the site is too long to provide a foraging resource for winter bird species such as Brent geese. In addition, neither the site nor any of the adjacent land has been identified by The Solent Wadars and Brent Goose Strategy as being of value to the local wintering bird population. The site is of **negligible value** to wintering birds.

Invertebrates*Desk Study*

- 4.3.18 A total of 50 no. notable invertebrate species have been recorded within 2.0km of the site including stag beetle, white admiral butterfly and false mocha moth.

Site Assessment

- 4.3.19 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

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

5.0 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES**5.1 Designated Sites***Potential Impacts*

- 5.1.1 In the absence of mitigation, potential impacts upon surrounding designated sites could include increased recreational disturbance and release of nitrates into the watercourse. The adjacent SINC could be impacted through dust smothering, pollution events and changes to hydrology during the construction phase.

Mitigation and Compensation

- 5.1.2 The development would provide public open space to provide recreation space for the residents. Developer contributions to the Solent Recreation Mitigation Strategy (SRMS) funds wardens, a programme of education, signage, bird refuges, strategic greenspaces and a monitoring programme to mitigate against adverse impacts from increased recreational disturbance. The scheme will include a large drainage basin which will retain water on site, reducing nitrate discharge from surface water run-off. All wastewater will be discharged to main sewers rather than into local watercourses to reduce any potential leaching of nitrates into The Solent or Chichester Harbour.

- 5.1.3 All construction works will be undertaken in accordance with best practise with regards dust, noise and emissions. No water will be pumped into or taken from the eastern stream during the construction phase. Any fuel or hazardous materials will be stored in an appropriate compound a minimum of 5m from the eastern and northern boundaries of the site.

Residual Impacts

- 5.1.4 **No likely significant effects** upon surrounding protected sites are predicted as a result of this development.

5.2 Habitats

Potential Impacts

- 5.2.1 Development proposals will result in the permanent loss of areas of tall ruderal, rank grassland and dense scrub. In the absence of mitigation, surrounding hedge / tree lines may be degraded through dust, emissions and pollution events during the construction phase.

Mitigation and Compensation

- 5.2.2 Post-development, a landscape scheme would replace habitats lost with areas of grassland and introduced shrub with areas of wildflower meadow. Wildlife friendly planting will be utilised within the scheme.
- 5.2.3 Works during the construction phase will be undertaken in accordance with guidance provided within *The Control of Dust and Emissions During Construction and Demolition SPG (July 2014)* to control any excess dust creation which may impact adjacent habitats. All adjacent hedgerows and mature trees will be retained and protected in accordance with BS5837:2012. Storage of all fuel and hazardous materials will be located in a secure area outside the RPA's of retained trees.

Residual Impacts

- 5.2.4 No priority or other important habitats or plant species will be affected by this development, the impact of which is **not significant**.

5.3 Bats

Potential Impacts

- 5.3.1 In the absence of mitigation impacts may include killing or injuring of individual bats, habitat fragmentation, loss of foraging areas and increased predation. No works are proposed to Tree T01, therefore impacts would be of minor impact magnitude and unlikely to occur.

Mitigation and Compensation

- 5.3.2 Tree T01 (*categorised as offering 'low' bat roost suitability*) is to be retained and protected during the development proposals through the use of weldmesh fencing securely affixed to a scaffold framework located outside the RPA. The exclusion zone will be clearly signed and all contractors will be made aware that storage of machinery, materials or fuel within this area is prohibited.
- 5.3.3 A sensitive lighting scheme will be employed with lighting kept to the minimum levels and angled down and away from surrounding woodland, mature trees and ditches. No light spill will be permitted upon Tree T01 during the construction or operational phases.

Residual Impacts

- 5.3.4 The overall impact of the scheme will be **non-significant**.

5.4 Reptiles

Potential Impacts

- 5.4.1 None predicted, no reptiles were found on site.

Mitigation and Compensation

- 5.4.2 None required.

Residual Impacts

- 5.4.3 The overall impact of the scheme will be **non-significant**.

5.5 Amphibians

Potential Impacts

- 5.5.1 None predicted, no potential breeding ponds are located within 500.0m of the site.

Mitigation and Compensation

- 5.5.2 None required. In the highly unlikely event that any GCN are found on site, all works will cease while a suitably qualified ecologist is contacted for advice.

Residual Impacts

- 5.5.3 The overall impact of the scheme will be **negligible, non-significant**.

5.6 Dormouse

Potential Impacts

- 5.6.1 Habitat within the construction zone is sub-optimal. Impacts will be negligible.

Mitigation and Compensation

- 5.6.2 None required.

Residual Impacts

- 5.6.3 The overall impact of the scheme will be **negligible, non-significant**.

5.7 Badgers

Potential Impacts

- 5.7.1 In the absence of mitigation, impacts would include the trapping of badgers in footings/trenches, fragmentation of habitat and disruption of commuting corridors.

Mitigation and Compensation

- 5.7.2 Trenches deeper than 1.0m will be covered overnight or have a ramp installed to avoid trapping any badgers or other mammals on site. Boundary vegetation around the site will be retained.

Residual Impacts

- 5.7.3 The overall impact of the scheme will be **non-significant**.

5.8 Nesting Birds*Potential Impacts*

- 5.8.1 In the absence of avoidance / mitigation, the development could result in the damage / destruction of a bird nest.

Mitigation and Compensation

- 5.8.2 The clearance of any hedges, scrubs or trees will be undertaken outside the bird nesting season. Should this not be possible, vegetation will be checked prior to removal by a Suitably Qualified Ecologist to ensure no active nests are present.

Residual Impacts

- 5.8.3 The overall impact of the scheme will be **non-significant**.

5.9 Wintering Birds*Potential Impacts*

- 5.8.1 No impacts predicted; the site offers sub-optimal habitat.

Mitigation and Compensation

- 5.8.2 None required.

Residual Impacts

- 5.8.3 The overall impact of the scheme will be **negligible, non-significant**.

5.10 Invertebrates*Potential Impacts*

- 5.10.1 None predicted; the construction zone is of negligible value to invertebrates.

Mitigation and Compensation

- 5.10.2 None required.

Residual Impacts

- 5.10.3 The overall impact of the scheme will be **non-significant**.

6.0 ENHANCEMENTS

- 6.1 The design of the proposed development includes ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Ecological enhancements which will be included as part of development proposals include:

- *The use of flowering plants as listed within the RHS 'Plants for Pollinators'*
- *The provision of nest boxes for a variety of bird species within trees;*
- *Integrated bat boxes to the southern aspect of the buildings and mature trees to suit a variety of species;*
- *Installation of hedgehog house such as 'Hogitat' within an area of dense scrub;*
- *Incorporation of suitable 'hedgehog holes' to the base of closed board fencing to allow movement of hedgehogs between gardens;*
- *Reinforcement of boundary vegetation with native hedge and tree planting;*
- *Creation of wildflower area within the flood attenuation basin;*
- *Creation of seasonally wet swales to the southern boundary;*
- *Provision of climbing plants along the new acoustic fence to the southern boundary;*
- *Native tree and shrub planting to the eastern section of the site;*
- *Clearance of scrub along the eastern ditch to encourage a more varied flora.*

7.0 CONCLUSIONS

- 7.1 The development site is formed of common, widespread habitats. Floral diversity in general was relatively low, particularly within the western field parcel, with the bulk of the site dominated by grasses.

- 7.2 The proposals will not have a derogatory effect upon any surrounding statutory or non-statutory protected site, or any adjacent habitats. A series of mitigation measures have been detailed to avoid the proposals impacting upon these areas.
- 7.3 There will be no impacts upon any European Protected Species as a result of this development. The lighting scheme shall be designed to avoid light spill into mature hedge / treelines to ensure the continued ecological functionality of these areas as bat foraging / commuting routes.
- 7.4 Detailed reptile surveys showed the likely absence of reptiles on site; therefore development proposals will have no adverse impact upon any reptiles present within the local area. Proposed enhancements will provide ample suitable reptile habitat should the site become colonised in the future.
- 7.5 The site offers suitable nesting habitat for small passerines in the form of dense scrub and hedgerows. Removal of any of these areas will be undertaken outside the nesting season or following inspection to ensure works do not contravene The Wildlife and Countryside Act 1981 (as amended).
- 7.6 The impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in no net loss of biodiversity in line with national planning policy guidance.

8.0 REFERENCES

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

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Table No. 07 – Species List for Habitat Parcels**Species-Poor Semi-Improved Grassland**

Common Name	Scientific Name	DAFOR
Birdsfoot Trefoil	<i>Lotus corniculatus</i>	R
Bristly Ox-tongue	<i>Helminthotheca echioides</i>	O
Broadleaf Plantain	<i>Plantago major</i>	LF
Cats Tail	<i>Phleum pratense</i>	F
Common Fleabane	<i>Pulicaria dysenterica</i>	LD
Common Mallow	<i>Malva Sylvestris</i>	R
Creeping Bent	<i>Agrostis stolonifera</i>	LD
Creeping Buttercup	<i>Ranunculus repens</i>	LD
Creeping Thistle	<i>Cirsium arvense</i>	LD
Crested Dogs Tail	<i>Cynosurus cristatus</i>	O
Curled Dock	<i>Rumex crispus</i>	LA
Cut-leaved Cranesbill	<i>Geranium dissectum</i>	F
Field Bindweed	<i>Convolvulus arvensis</i>	LF
Hedge Woundwort	<i>Stachys sylvatica</i>	O
Meadow Buttercup	<i>Ranunculus acris</i>	F
Mouse-ear Chickweed	<i>Stellaria media</i>	O
Mugwort	<i>Artemisia vulgaris</i>	LA
Ox-eye Daisy	<i>Leucanthemum vulgare</i>	F
Perennial Rye-grass	<i>Lolium perenne</i>	LD
Prickly Sowthistle	<i>Sonchus asper</i>	R
Ragwort	<i>Jacobaea vulgaris</i>	O
Red Clover	<i>Trifolium pratense</i>	O
Ribwort Plantain	<i>Plantago lanceolate</i>	O
Scentless Mayweed	<i>Tripleurospermum inodorum</i>	A
Silverweed	<i>Argentina anserina</i>	LF
White Clover	<i>Trifolium repens</i>	F
Yorkshire Fog	<i>Holcus lanatus</i>	D

Tall Ruderal

Common Name	Scientific Name	DAFOR
Broadleaf Dock	<i>Plantago major</i>	A
Burdock	<i>Arctium minor</i>	LF
Cow Parsley	<i>Anthriscus sylvestris</i>	LD
Creeping Thistle	<i>Cirsium arvense</i>	A
Hedge Mustard	<i>Sisymbrium officinale</i>	LF
Prickly Sowthistle	<i>Sonchus asper</i>	O
Ragwort	<i>Jacobaea vulgaris</i>	LA

Scattered & Dense Scrub

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

Ditch (emergent and marginal vegetation)

Common Name	Scientific Name	DAFOR
Blue Water Speedwell	<i>Veronica anagallis-aquatica</i>	LD
Broadleaf Willowherb	<i>Epilobium montanum</i>	LD
Common Nettle	<i>Urtica dioica</i>	F
Curled Dock	<i>Rumex crispus</i>	F
Hemlock Water Dropwort	<i>Oenanthe crocata</i>	LD
Rosebay Willowherb	<i>Chamaenerion angustifolium</i>	LD
Watercress	<i>Nasturtium officinale</i>	LD

Scattered Trees (off site)

Common Name	Scientific Name	DAFOR
Ash	<i>Fraxinus excelsior</i>	O
London Plane	<i>Platanus × acerifolia</i>	O
Norway Maple	<i>Acer platanoides</i>	O
Oak	<i>Quercus robur</i>	O
Silver Birch	<i>Betula pendula</i>	O
Turkey Oak	<i>Quercus cerris</i>	O
Walnut	<i>Juglans regia</i>	O

Amenity Grassland

Common Name	Scientific Name	DAFOR
Creeping Bent	<i>Agrostis stolonifera</i>	D
Creeping Buttercup	<i>Ranunculus repens</i>	O
Creeping Cinquefoil	<i>Potentilla reptans</i>	F
Self-heal	<i>Prunella vulgaris</i>	O
Yarrow	<i>Achillea millefolium</i>	O

Species-poor Hedge

Common Name	Scientific Name	DAFOR
Blackthorn	<i>Prunus spinosa</i>	F
Bramble	<i>Rubus fruticosus</i>	LD
Dogrose	<i>Rosa canina</i>	O
Elm	<i>Ulmus sp.</i>	LF
Field Maple	<i>Acer campestre</i>	O
Hawthorn	<i>Crataegus monogyna</i>	F

Broadleaved Woodland

Common Name	Scientific Name	DAFOR
Ash	<i>Fraxinus excelsior</i>	D
Bramble	<i>Rubus fruticosus</i>	LD
Field Maple	<i>Acer campestre</i>	F
Hawthorn	<i>Crataegus monogyna</i>	F
Hazel	<i>Corylus avellana</i>	O
Ivy	<i>Hedera helix</i>	LD
Oak	<i>Quercus robur</i>	D

Appendix A – Site Photographs

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 1 - View of the eastern field parcel looking towards the north.



Photograph No. 2 - View across the western field parcel looking towards the south.

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 3 - Dry ditch located within a scrubby hedgeline. The ditch runs north-south across the centre of the site.



Photograph No. 4 - Southern end of the eastern ditch where it exits the site via an existing culvert.

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 5 - View of the adjacent SINC taken from the site. The land appears to be a semi-improved grassland hay meadow. The proposed development will not adversely impact this area.

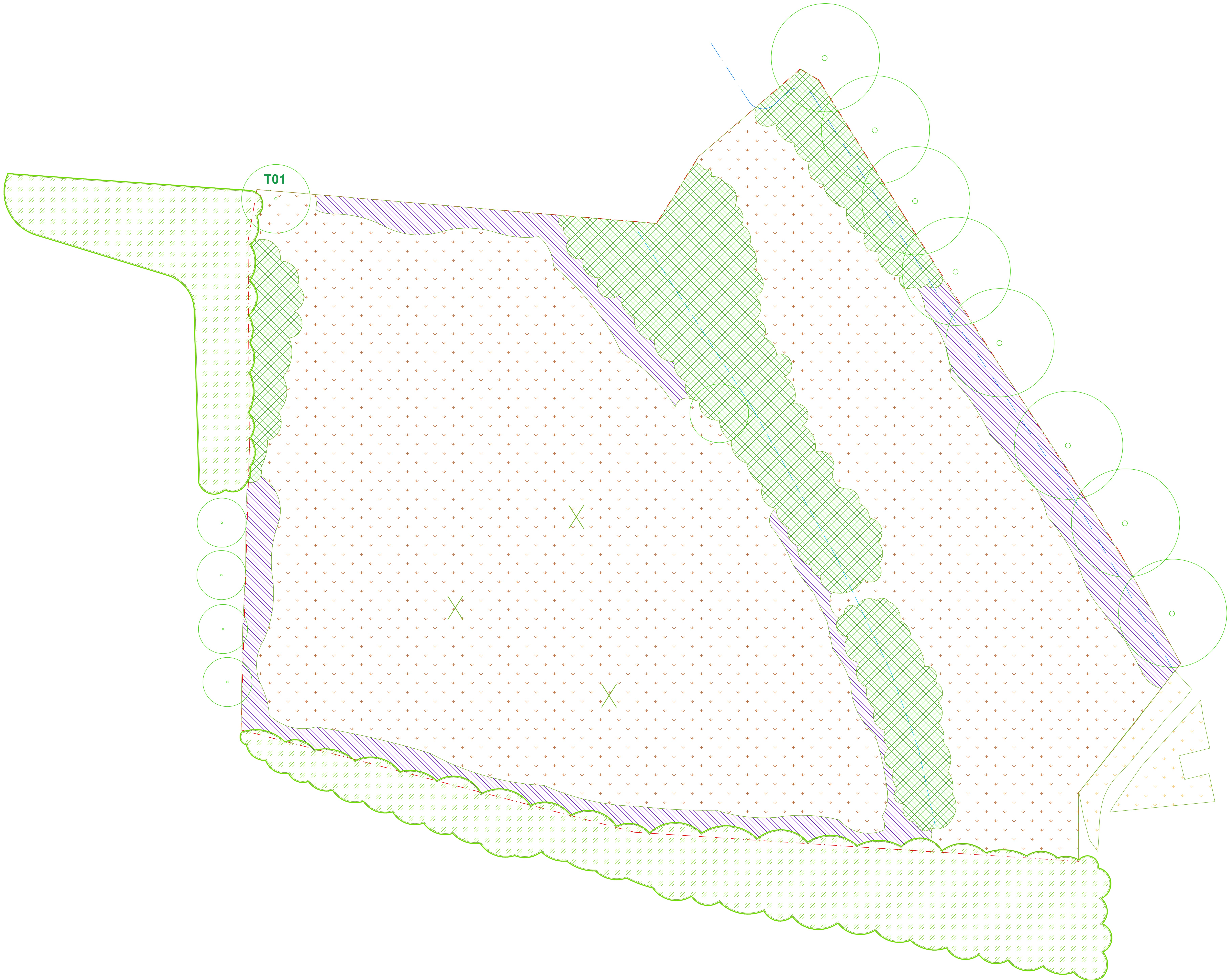


Photograph No. 6 - The ditch which runs between the SINC and the recreation ground before flowing into the site. The ditch was inspected wherever access was possible; no evidence of narrow-leaved water plantain was recorded along these areas.

FIGURES:

Figure No. 01 – Site Habitat Plan

Figure No. 02 – Location of Reptile Refugia



Legend

- Development Site Boundary / Survey Area.
- Amenity Grassland.
- Semi-improved Grassland.
- Tall Ruderal Vegetation.
- Dense Scrub.
- Scattered Scrub.
- Broadleaved Woodland.
- Dry Ditch.
- Wet Ditch.
- Trees With Bat Roost Potential.
- T01**
- Scattered Trees.

Planning Issue

Rev	Description	Date	Initials
00	Planning Issue	09.07.19	LB

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Client:
Telstar Limited
Project Title and Location:
Coldharbour Farm, Emsworth, Hampshire

Drawing Title:
Figure No.1 - Site Habitat Plan

Scale	Drawn	Approved	Date
1:250@A0	LB	CO	09.07.19

Drawing No.	Revision
LLD1726-ECO-FIG-001	00

Figure No.01- Site Habitat Plan
Coldharbour Farm, Emsworth, West Sussex



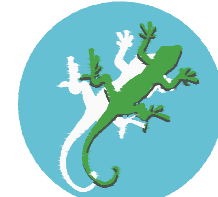
Figure No.02- Location of Artificial Refugia
Coldharbour Farm, Emsworth, West Sussex



- KEY**
- Site Boundary
 - Existing Vegetation - To be retained and protected
 - Proposed Native Tree Planting - To Site boundaries and flood storage area
 - Proposed Ornamental Tree Planting - Compact street trees
 - Proposed Ornamental Planting Areas - To dwelling frontages
 - Proposed Native Shrub / Groundcovers
 - Proposed Native Hedgerow
 - Proposed Native Meadow Areas
 - Existing Watercourse - To be retained and protected
 - Proposed Swales - Collect and filter surface run-off
 - Proposed Road Surface - Tarmac surface
 - Proposed Pavement - Tarmac surface
 - Proposed Parking Spaces - Permeable block paving
 - Proposed Footpaths and Terraces - Permeable block paving
 - Proposed Bike and Bin Stores
 - Proposed Boundary Treatment - Stock proof post and rail fence
 - Proposed Boundary Treatment - Masonry wall to public facing boundaries
 - Proposed Boundary Treatment - Timber closeboard fence
 - Proposed Acoustic Fence - To southern Site boundary

Planning Issue

Rev	Description	Date	Initials
00	Planning Issue	28.06.19.	SL



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Project Title and Location Coldharbour Farm Emsworth, Hampshire			
Drawing Title Illustrative Landscape Masterplan			
Scale 1:500	Drawn SL	Approved KM	Date 28.06.19
Drawing No LLD1726-LAN-DWG-010			Revision 00

Illustrative Landscape Masterplan
Coldharbour Farm, Emsworth, Hampshire