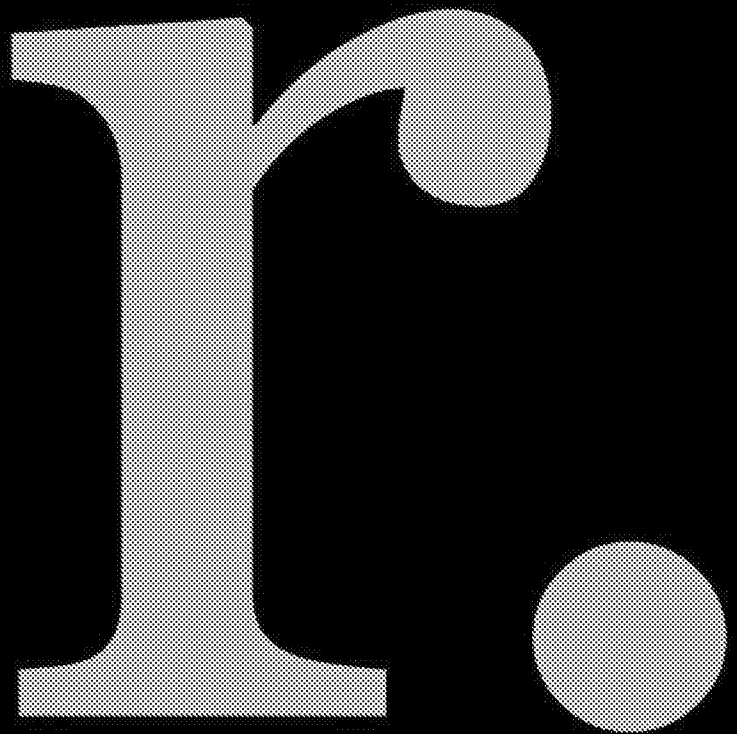


reside.

Land west of Fontwell Avenue, Eastergate

Ecological Impact Assessment Report





ECOLOGICAL IMPACT ASSESSMENT

Land at Fontwell Avenue, Fontwell

On Behalf of: Reside Developments Ltd

Planning Issue

Prepared by	CO
Checked by	LB
Date	07 th April 2020
Project Reference	LLD1544
Revision	03

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L I Z A R D

Landscape Design and Ecology

The Old Bank, 24 South Street, Tarring, Worthing, West Sussex, BN14 7EN

SUMMARY

Lizard Landscape Design and Ecology has been commissioned to undertake a Preliminary Ecological Appraisal and subsequent Protected Species Surveys of Land at Fontwell Avenue, Fontwell, West Sussex (*Grid Reference: SU 946 061– hereafter referred to as ‘the site’*). The results of these surveys were then used to inform an Ecological Impact Assessment.

A preliminary ecological appraisal (*PEA*) was undertaken on 04th September 2018, to appraise the existing ecological resource within the land and the surrounding area. The following Phase 2 Protected species surveys were recommended and undertaken during the 2019 survey season:

- *Reptile Surveys;*
- *Badger Surveys.*

The development site is formed of common, widespread habitats of low ecological value. Floral diversity in general was very low, with the bulk of the site dominated by heavily grazed improved grassland.

No protected species were recorded utilising the site, however the mature vegetation to the western boundary is likely to be utilised by common light-tolerant bat species such as pipistrelle sp. With appropriate mitigation, compensation and enhancement as detailed above, there will be **no significant effects** upon any habitats or protected species within or adjacent to the site.

The impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in creation of varied habitats across the site which will suit a range of birds, bats, reptiles and invertebrates.

1.0 INTRODUCTION

1.1 Lizard Landscape Design and Ecology has been commissioned to undertake a Preliminary Ecological Appraisal and subsequent Protected Species Surveys of Land at Fontwell Avenue, Fontwell, West Sussex (*Grid Reference: SU 946 061—hereafter referred to as ‘the site’*). The results of these surveys were then used to inform an Ecological Impact Assessment.

1.2 A preliminary ecological appraisal (*PEA*) was undertaken on 04th September 2018, to appraise the existing ecological resource within the land and the surrounding area. The following Phase 2 Protected species surveys were recommended and undertaken during the 2019 survey season:

- *Reptile Surveys;*
- *Badger Surveys.*

1.3 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 Louise Barker (*MSc, BSc, Project Ecologist; Lizard Landscape Design and Ecology*).

Site Information

1.4 The site contains a small number of stable outbuildings with large improved grassland fields which are currently in use as paddocks. The red-line boundary covers a total area of approximately 1.5 hectares (*Ha*).

1.5 The majority of the site is bounded by roads of varying traffic levels. Level Mare Lane bounds the site to the north; Fontwell Avenue to the east; and the Northfield Cottage and Farmhouse track to the south. Open grassland and arable fields lie beyond a mature tree lined western boundary.

Surrounding Landscape

- 1.6 The wider landscape has a rural feel; the area is dominated by a matrix of arable and pastoral farmland interspersed with hedgerows and small pockets of woodland. The nearest woodland area is a 0.68Ha plot of *Deciduous Woodland* located 130 metres (*m*) west of the proposed development site.
- 1.7 There is 1 no. waterbody located within 500m of the proposed development site, located 120m south.

Development Proposals

- 1.8 It is understood that the development proposals include demolition of existing out buildings along the southern boundary and the development of 42 no. new dwellings.

Survey Aims

- 1.9 The aim of this ecological appraisal survey has been:
- *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 Planning 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 be '*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 Policy ENV DM5 of the Arun Local Plan 2014-2031 states that:
- *Development will seek to achieve a net gain in biodiversity and protect existing habitats on site;*
 - *Development should incorporate elements such as green roofs / walls and bird and bat boxes;*
 - *Development shall be designed to provide links between habitats and facilitate species movement;*
 - *Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species.*
- 2.6 The current development proposals comply with all national and local planning policy with regards biodiversity.

3.0 METHODOLOGY

3.1 Desk Study

- 3.1.1 The Multi-agency Geographic Information for the Countryside (MAGIC) system was used for details of protected sites, habitats and protected species licences within 2.0km of the site. Due to the poor-quality habitats on site and immediately adjacent a full protected species search from SxBRC was not considered proportionate to the predicted impacts of the scheme. The desk study was conducted on 04th September 2018.

3.2 Field Survey

- 3.2.1 A preliminary ecological appraisal was undertaken on 04th September 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)*. 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. 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 500m of the proposed development site.
- 3.2.3 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.

3.3 Preliminary Bat Roost Assessment

3.3.1 A Preliminary Bat Roost Assessment was undertaken on 04th September 2018 by an experienced bat surveyor who undertook an external and internal examination of the existing buildings and trees on site. 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.*

3.3.2 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 trees / 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 – 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.

3.4 Reptile Survey

- 3.4.1 25 no. artificial reptile refugia (*roofing felt; 0.50 x 1.0 m²*) were laid out around the site on 26th March 2019 and allowed to settle for 14 days prior to commencement of the survey.
- 3.4.2 07 no. site visits were conducted, where the number, species, age and sex of the reptiles' present were recorded.
- 3.4.3 Surveys were undertaken where possible 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 below.

Table No. 02 - Details of Weather Conditions during the Reptile Surveys

Survey	Date of Visit	Time	Weather
01	12.04.19	10:00	13°C – Sunny, Dry, Wind F1
02	17.04.19	16:00	14°C – Sunny, Dry, Wind F0
03	01.05.19	10:15	13°C – Sunny, Dry, Wind F1
04	03.05.19	10:00	13°C – Sunny, Dry, Wind F1
05	07.05.19	09:00	11°C – Sunny intervals, Wind F0
06	09.05.19	16:00	14°C – Hazy, Dry, Wind F1
07	14.05.19	10:00	17°C – Sunny intervals, Dry, Wind F2

3.5 Badger Survey

3.5.1 4no. areas of mammal holes were monitored for a minimum of 21 days each between 26th March and 15th May 2019. All areas were along the western site boundary, both within and adjacent to the proposed development site (*refer to Figure No. 03 for locations of monitoring points*).

3.5.2 Each area was monitored with a combination of infrared trail camera, hair traps and deadwood placed across the entrance hole. Camera traps were set to record 30 seconds of footage once triggered.

3.6 Ecological Impact Assessment

3.6.1 The methodology for Ecological Impact Assessment (*EciA*) follows best practice guidelines set by the Chartered Institute of Ecology & Environmental Management (*CIEEM*): 'Guidelines for Ecological Impact Assessment' (*CIEEM, 2018*). This includes identifying the baseline conditions on the site and subsequently rating the potential effects of the development based on the sensitivity and value of the resource affected, combined with the magnitude, duration and scale of the impact (*or change*). This is initially assessed without mitigation measures, and then assessed again after allowing for the proposed mitigation measures; this provides the residual effects. The assessment is divided into construction effects and longer-term operational effects.

3.6.2 Each ecological feature within the site has been considered within a defined Geographic context such as:

- *International and European;*
- *National;*
- *Regional;*
- *County;*
- *District;*
- *Local;*
- *Site Level;*
- *Negligible.*

3.6.3 Based upon CIEEM guidance, value was determined with reference to the following factors:

- *Its inclusion as a Designated Site or other protected area;*
- *The presence of habitat types of conservation significance, e.g. Habitats of Principal Importance (NERC 2006);*
- *The presence (or potential presence) of species of conservation significance e.g. Species of Principal Importance (NERC 2006);*
- *The presence of other protected species e.g. those protected under The Wildlife and Countryside Act 1981;*
- *The sites social and economic value.*

3.6.4 The ecological impacts resulting from the proposals were then described according to a defined set of characteristics as defined within '*Guidelines for Ecological Impact Assessment in the UK and Ireland*' (CIEEM, 2018). This assessment considers residual impacts (once all mitigation has been taken into account), with any significant effects highlighted. A significant effect is defined as "*an effect which either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general*".

3.6.5 The confidence that a certain activity will result in a significant adverse effect has been ranked as follows:

- *Highly probable;*
- *Probable;*
- *Unlikely;*
- *Highly unlikely.*

3.6.6 Where initial impacts have been identified as significant, avoidance, mitigation and compensation measures have been proposed to avoid, prevent or offset such effects. Enhancement has been proposed to ensure that the development represents a net gain in biodiversity in accordance with National Policy.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Designated Sites

Statutory Protected Sites

4.1.1 There are no designated sites located within 2.0km of the proposed development site. The nearest Statutory protected sites are detailed below.

Table No. 03 – Statutory Protected Sites

Site	Description	Location
<i>South Downs National Park</i>	<i>A large area of varied habitats including chalk grassland and woodland which supports varied flora and fauna.</i>	<i>1.0km N</i>
<i>Eartham Pit, Boxgrove SSSI.</i>	<i>The area has undergone considerable geological and archaeological investigations. Immediately to the north of the pit there is a fossil shoreline.</i>	<i>3.1km NW</i>
<i>Fairmile Bottom SSSI.</i>	<i>The site contains yew <i>Taxus baccata</i> woodland and scrub as well as unimproved chalk grassland, which are all nationally rare communities.</i>	<i>4.1km NE</i>

- 4.1.2 The site is located within the Impact Risk Zone of *Fairmile Bottom SSSI* however proposals do not meet the criteria which would require the LPA to consult with Natural England regarding potential impacts.

Non-Statutory Protected Areas

- 4.1.3 *Sites of Nature Conservation Interest (SNCIs)* 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. SNCI's located within 2.0km of the site are detailed below.

Table No. 04 – Non-Statutory Protected Sites

SNCI	Locations
<i>Fontwell Racecourse SNCI</i>	<i>0.15km NW</i>
<i>Slindon Bottom SNCI</i>	<i>1.0km N</i>

- 4.1.4 The proposed development site is neither located adjacent to or within any SNCI. The development proposals are highly unlikely to have an adverse effect upon any surrounding SNCI due to the intervening distances and lack of direct connectivity.

4.2 Habitats

- 4.2.1 Within 2.0km of the site there are *Priority Habitats* of *Lowland Meadow, Ancient Woodland, Traditional Orchard, Deciduous Woodland and Woodpasture and Parkland*. The site itself does not contain any *Priority Habitat*, proposals will not remove or degrade any area of *Priority Habitat*.

- 4.2.2 Habitats within and adjacent to the land include:

- *Hardstanding / Bare Ground;*
- *Existing Buildings;*
- *Improved Grassland;*
- *Hedge with Trees.*

Hardstanding / Bare Ground

- 4.2.3 The Northfields Cottages driveway provides access to the proposed site from Fontwell Avenue. This main driveway and gravel parking area is located in the south eastern corner of the proposed site.

Existing Buildings

- 4.2.4 A total of 2 no. buildings are located within the proposed development plans. The building structures (*sheds*) are of single skin wooden construction with open sides and in use as storage units, these contain 'negligible' bat roosting features.

Improved Grassland

- 4.2.5 The bulk of the site area is dominated by improved grassland with a sward height which varies between 5.0cm and 20.0cm, with longer vegetation found to the borders of the site. Species composition is typical of improved grassland being dominated by Perennial Rye-grass (*Lolium perenne*) and Yorkshire Fog (*Holcus lanatus*) interspersed with occasional White Clover (*Trifolium repens*) and Creeping Buttercup (*Ranunculus repens*) with small stands of Common Nettle (*Urtica dioica*), mostly to the field boundaries.

Hedge with Trees

- 4.2.6 The northern aspect adjacent to Fontwell Avenue and eastern aspect along Level Mare Lane are made up of paddock field boundaries formed of common hawthorn (*Crataegus monogyna*) hedgerow interspersed with scattered trees. The western boundary is formed of mature beech (*Fagus sylvatica*) treeline with occasional oak (*Quercus robur*), sycamore (*Acer pseudoplatanus*) and holly (*Ilex aquifolium*).

4.3 Protected Species

- 4.3.1 The following is based upon protected species records returned from desk study, field study and any further Phase 2 Protected Species Surveys which were undertaken on site.

Reptiles

Desk Study

- 4.3.2 There are records of Slow Worm (*Anguis fragilis*), Grass Snake and Common Lizard 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

- 4.3.3 The site is dominated by well-grazed improved grassland; as such the majority of the site lacks the suitable structure for hibernation, shelter and foraging. Un-grazed margins along the western boundary, and the bases of hedgerows to the northern and eastern boundaries were considered to offer some small areas of suitable reptile habitat.
- 4.3.4 A reptile survey of these areas undertaken March – May 2019 did not record any reptiles on site. All surveys were undertaken during suitable weather conditions at the optimal time of the year therefore there is nothing to suggest this may be a false negative. The site is of **negligible value** to reptiles.

Amphibians

Desk Study

- 4.3.5 Records of Common Toad, Common Frog, Smooth Newt exist within 2.0km. No records of Great Crested Newts (GCN) existing within 2.0km of the site. Surveys of ponds in the wider area were undertaken in 2014 in connection with a large development to the north-east; these surveys did not record GCN in any of the ponds surveyed.

Site Assessment

- 4.3.6 No waterbodies are present within the redline boundary. No access was available to the pond located 120m south-west, however inspection via satellite imagery suggests that this pond is surrounded by bare ground and possibly stocked with fish therefore is likely to be unsuitable as a breeding pond.

- 4.3.7 The site is dominated by well-grazed improved grassland; as such the majority of the site lacks the suitable structure for hibernation, shelter and foraging. The tree belt adjacent the western boundary may provide some limited terrestrial habitat for GCN and toads; this area is to be retained and protected within the proposals. The construction zone is considered to be of **negligible value** to amphibians.

Bats

Desk Study

- 4.3.8 Bat species such as Common Pipistrelle (*Pipistrellus pipistrellus*); Soprano Pipistrelle (*Pipistrellus pygmaeus*); Nathusius' pipistrelle (*Pipistrellus nathusii*), Brown Long-eared (*Plecotus auratus*), Natterer's (*Myotis nattereri*), Serotine bats (*Eptesicus serotinus*) and Bechstein's (*Myotis bechsteinii*) have been recorded within 2.0km of the site and Barbastelle (*Barbastella barbastellus*) bats have also been recorded using Fontwell Avenue as a commuting route.

Site Assessment

- 4.3.9 No buildings with roosting features are present within the red line boundary. A metal shipping container and large wooden storage shed are located along the south-eastern boundary of the site. The storage shed is open fronted with a corrugated metal roof. Both buildings lack an enclosed loft void and are too thermally unstable to support a bat roost. The north and eastern tree line boundaries within the site are not of a size or age which provide suitable roosting features. The site is considered to offer **negligible** bat roost suitability.
- 4.3.10 The mature treeline (offsite/ not within proposed plans) on the western boundary provides a strong linear landscape feature between the site and the wider environment, as well as offering a foraging resource in its own right. This feature is of **site / local** value to foraging / commuting bats. The north and eastern hedgerow with trees also provides a linear feature for commuting bats, this can be enhanced to improve its connectivity.

Breeding Birds*Desk Study*

- 4.3.11 56no. bird species have been recorded within 2.0km of the site, including skylark, kingfisher, swallow and barn owl.

Site Assessment

- 4.3.12 The grassland within the main body of the site is too short to offer suitable nesting habitat for ground nesting birds however the surrounding hedge / tree lines offer suitable nesting habitat for a range of species. These areas are of **site value** to nesting birds.

Badgers*Desk Study*

- 4.3.13 Badger records are confidential; however, badgers are known to be present within 1.0km of the site.

Site Assessment

- 4.3.14 Several mammal tracks were recorded between the western treeline and the site, while the short grassland on site may offer suitable foraging habitat for badgers. A number of mammal holes were also recorded along the western boundary of the site.
- 4.3.15 A detailed badger sett monitoring survey undertaken on site March – May 2019 did not record badgers utilising any of the mammal holes within or adjacent to the site. Evidence from camera traps deployed on site shows these areas to be used by foxes and rabbits only. Squirrels, birds, rats and mice were also recorded by the camera traps however no badgers were recorded passing the cameras at any point during the survey. No direct evidence of badgers on site such as snuffle holes or latrines were recorded within the main body of the site. The site is therefore of **negligible value** to badgers, however they may very occasionally commute across the site.

Dormouse*Desk Study*

- 4.3.16 A small number of dormouse records exist within 2.0km of the site, from Wandleys copse (0.9km NE) and Potwell Copse (1.8km NE).

Site Assessment

- 4.3.17 The northern and eastern species-poor hedgerows are routinely managed to a height of <2.0m and lack the size and species diversity to support dormice. The western treeline may offer some limited habitat suitability however this is negated by the lack of direct connectivity between the site and areas of woodland in the wider environment. The site is considered to be of **negligible value** to dormice.

Others

- 4.3.18 No suitable habitat for any other protected species was recorded within or adjacent to the site area.

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

- 5.1.1 No impacts upon surrounding statutory protected sites are predicted due to the intervening distances and the discrepancy between habitats. Fontwell Racecourse is located 0.12km north-west of the site; in the absence of mitigation impacts could include degradation of habitats by dust smothering. Due to the intervening distance, impacts would be of minor impact magnitude and are highly unlikely to occur.

Mitigation and Compensation

- 5.1.2 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.

Residual Impacts

- 5.1.3 **No likely significant effect** upon surrounding designated sites will arise from the proposed development.

5.2 Habitats*Potential Impacts*

- 5.2.1 Development proposals will result in the loss of areas of tall ruderal, improved grassland and a section of hedgerow. These habitats are common and widespread and will be replaced during development. In the absence of mitigation, mature trees may be affected by compaction, root damage, dust smothering and pollution events.

Mitigation and Compensation

- 5.2.2 All retained trees and hedges would be protected with tree protective fencing in accordance with BS5837:2012. All fuel and hazardous materials will be stored in an appropriate manner a minimum of 5.0m from hedge / tree lines. 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 priority habitat.
- 5.2.3 Post-development, a landscape scheme would replace habitats lost with further areas of amenity grassland and introduced shrub areas within gardens while public open space will include new native tree planting, areas of wildflower meadow and new enhanced hedgerow boundary planting. Wildlife friendly planting will be utilised, increasing the overall biodiversity value of the site.

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 **negligible, not significant**.

5.3 Reptiles

Potential Impacts

- 5.3.1 No reptiles were found on site; impacts will be **negligible**.

Mitigation and Compensation

- 5.3.2 None required. Proposed enhancements will increase the overall value of the site for reptile species. In the unlikely event that any reptiles are found on site all works will cease while a suitably qualified ecologist is contacted for advice.

Residual Impacts

- 5.3.3 The overall impact of the scheme will be negligible in the short-term, with a **positive impact** in the long-term once vegetation has established.

5.4 Amphibians

Potential Impacts

- 5.4.1 None predicted, the site is of negligible value to amphibians.

Mitigation and Compensation

- 5.4.2 None required. Proposed enhancements will increase the overall value of the site for amphibians. In the unlikely event that GCN are found on site all works will cease while a suitably qualified ecologist is contacted for advice.

Residual Impacts

- 5.4.3 The overall impact of the scheme will be **non-significant**, minor-adverse in the short-term, with a **positive impact** in the long-term once vegetation has established.

5.5 Bats

Potential Impacts

- 5.5.1 In the absence of mitigation impacts may include habitat fragmentation and loss of foraging areas.

Mitigation and Compensation

- 5.5.2 The loss of linear habitat features during the creation of a new access route, while keeping the gap in the boundary to a minimum distance as is possible, will be replaced as soon as the new road boundary is in effect. A sensitive lighting scheme (*in accordance with Guidance Notes 08/18 Bats & Artificial Lighting in the UK*) will be employed with lighting kept to the minimum levels and angled down and away from surrounding hedge and tree lines. The landscape scheme will include 'bat-friendly' planting to increase the foraging resource while new hedge / tree planting will retain connectivity between the site and wider area.

Residual Impacts

- 5.5.3 The overall impact of the scheme will be negligible / minor-adverse in the short-term, with a **positive impact** in the long-term once vegetation has established.

5.6 Breeding Birds*Potential Impacts*

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

Mitigation and Compensation

- 5.6.2 The clearance of any hedges, shrub 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. The loss of small areas of hedging to facilitate access into the site will be compensated through replacement planting and the installation of bird boxes to suit a range of species.

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. Impacts would be of minor impact magnitude and unlikely to occur.

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 with new commuting corridors created across the centre of the site.

Residual Impacts

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

5.8 Dormouse

Potential Impacts

- 5.8.1 None predicted.

Mitigation and Compensation

- 5.8.2 None required.

Residual Impacts

- 5.8.3 The overall impact of the scheme will be **negligible, 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 in addition to the mitigation measures above include:

- The use of flowering plants as listed within the RHS 'Plants for Pollinators' list to provide year-round interest for invertebrates;
- The provision of nesting boxes for a variety of bird species within trees / the northern aspects of the new buildings;
- Integrated bat boxes to the southern aspect of new buildings and mature trees to suit a variety of species;
- Creation of wildflower meadows;
- Re-enforcement of existing boundary vegetation and new hedgerow planting to the eastern boundary with species-rich hedgerow;
- Hedgehog friendly gravel boards incorporating 13x13cm gap to allow movement of hedgehogs around the site;
- Bat friendly lighting in accordance with; *Guidance Notes 08/18 – Bat & Artificial Lighting in the UK*.

7.0 CONCLUSIONS

- 7.1 The development site is formed of common, widespread habitats of low ecological value. Floral diversity in general was very low, with the bulk of the site dominated by heavily grazed improved grassland. No protected species were recorded utilising the site, however the mature vegetation to the western boundary is likely to be utilised by common light-tolerant bat species such as pipistrelle sp. With appropriate mitigation, compensation and enhancement as detailed above, there will be **no significant effects** upon any habitats or protected species within or adjacent to the site.
- 7.2 The impacts of the planned development upon biodiversity will be **negligible, non-significant** with proposed ecological enhancements resulting in creation of varied habitats across the site which will suit a range of birds, bats, reptiles and invertebrates.

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
Bind Weed	<i>Convolvulus arvensis</i>	O
Black Medic	<i>Medicago lupulina</i>	R
Broad-leaved Dock	<i>Rumex obtusifolius</i>	LA
Burdock	<i>Arctium</i>	O
Common Nettle	<i>Urtica dioica</i>	LA
Common Daisy	<i>Bellis perennis</i>	O
Common Self-heal	<i>Prunella vulgaris</i>	R
Common Field-speedwell	<i>Veronica persica</i>	R
Common Yarrow	<i>Achillea millefolium</i>	R
Creeping Buttercup	<i>Ranunculus repens</i>	F
Creeping Thistle	<i>Cirsium arvense</i>	O
Dandelion	<i>Taraxacum officinale</i>	LA
Fescue sp.	<i>Festuca sp.</i>	LF
Perennial Rye-grass	<i>Lolium perenne</i>	D
Red Clover	<i>Trifolium pratense</i>	F
Ribwort Plantain	<i>Plantago lanceolata</i>	F
Stinking Chamomile	<i>Anthemis cotula</i>	R
White Clover	<i>Trifolium repens</i>	F
Yorkshire Fog	<i>Holcus lanatus</i>	LA

Hedge with Trees		
Common Name	Scientific Name	DAFOR
Ash	<i>Fraxinus excelsior</i>	F
Beech	<i>Fagus sylvatica</i>	F
Bramble	<i>Rubus fruticosus</i>	LD
Broad-leaved Dock	<i>Rumex obtusifolius</i>	F
Common Hawthorn	<i>Crataegus monogyna</i>	O
Common Holly	<i>Ilex aquifolium</i>	O
Common Ivy	<i>Hedera helix</i>	O
Common Lime	<i>Tilia x europaea</i>	R
Dandelion	<i>Taraxacum officinale</i>	F
Elder	<i>Sambucus nigra</i>	O
Laurel	<i>Laurel sp.</i>	O
Leyland Cypress	<i>Cupressus x leylandii</i>	O

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

Table No. 05 – Species List for Habitat Parcels, cont...

Hedge with Trees, cont..		
Common Name	Scientific Name	DAFOR
Maple	<i>Acer sp.</i>	F
Oak	<i>Pedunculate Oak</i>	O
Silver Birch	<i>Betula pendula</i>	R
Sweet Chestnut	<i>Catanea sativa</i>	O
Sycamore	<i>Acer pseudoplatanus</i>	O
Wild Cherry	<i>Prunus avium</i>	O
Yorkshire Fog	<i>Holcus lanatus</i>	LA

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

Table No. 06 - Target Notes

No.	Feature	Description
TN01	Bird Nest	Uninhabited bird nest noted in tree.
TN02	Mammal Holes	Holes were surveyed and found to be in used by foxes and rabbits. No badgers were recorded during the survey period.

APPENDICES

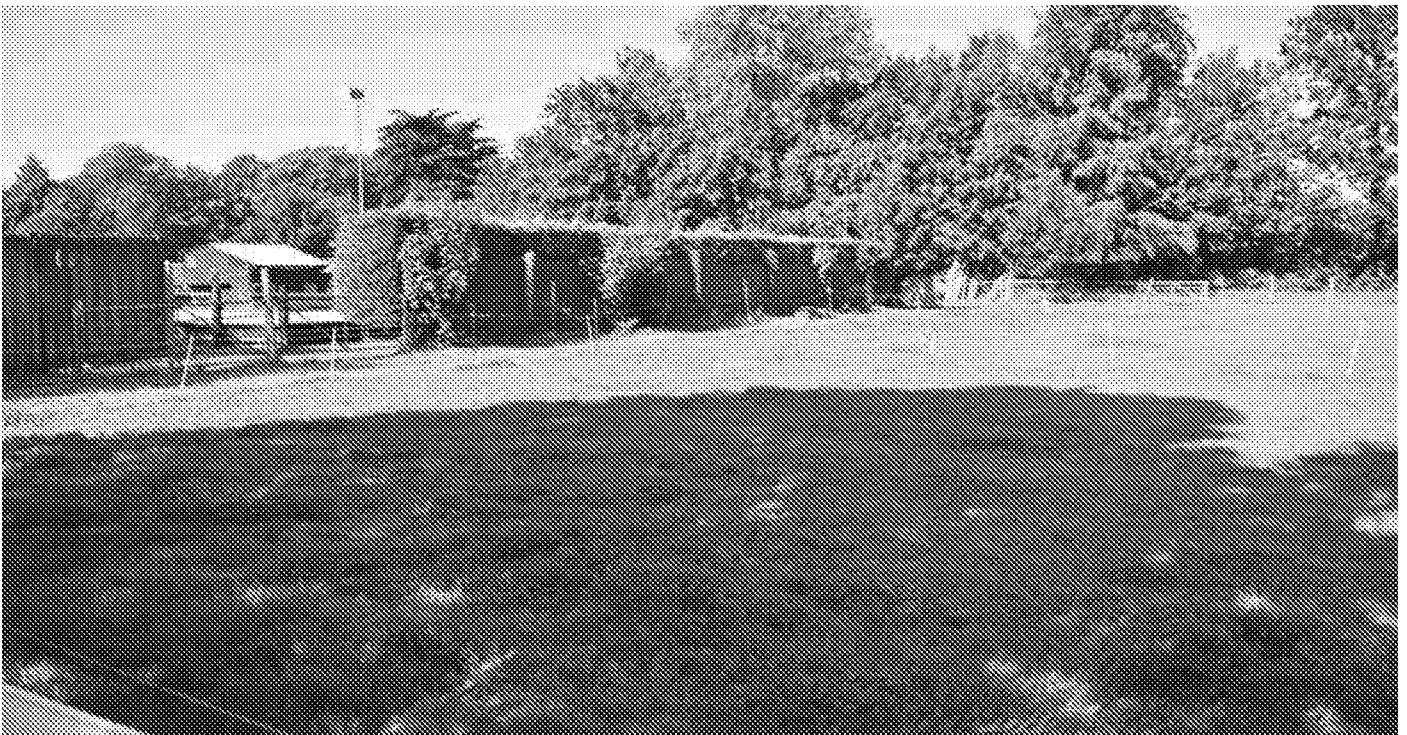
Appendix A – Site Photographs

Appendix B – Reptile Survey Results

APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 1 - View across the site, currently in use as paddocks, the area is made up of improved grassland, with perennial rye grass (*Lolium perenne*) dominating the species composition.



Photograph No. 2 - View of the southern edge of the site with existing sheds and Leyland Cypress (*Cupressus x leylandii*) hedgerow lining the border.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 3 - A gated access point noted along Fontwell Avenue, the hedgerow along this eastern edge of the site is otherwise continuous.



Photograph No. 4 - View of the western edge and neighbouring mature trees bordering the paddocks within the field.

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APPENDIX A - SITE PHOTOGRAPHS



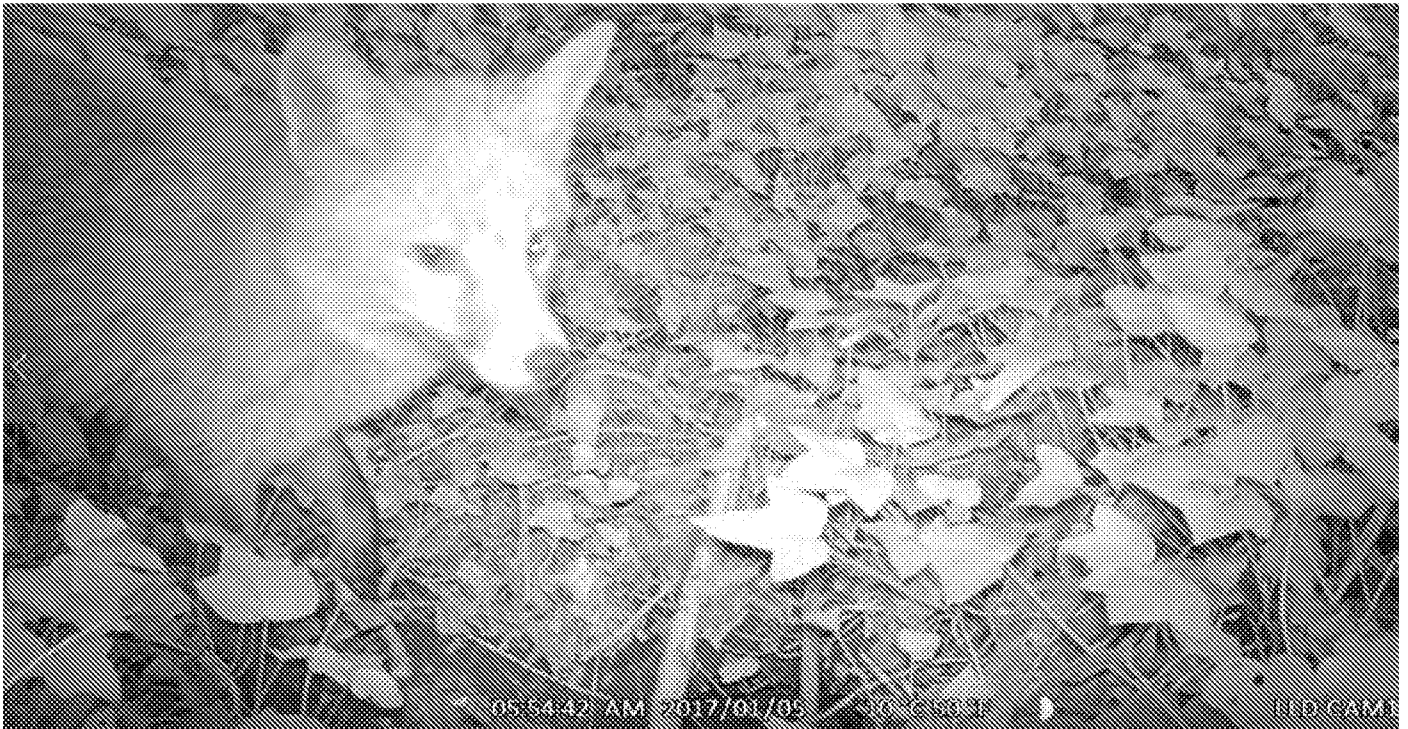
Photograph No. 5 - View of the north west corner of the site and a gated access point from Level Mare Lane.



Photograph No. 6 - Mammal holes on site. These areas were surveyed with only fox and rabbit activity noted.

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APPENDIX A - SITE PHOTOGRAPHS



Photograph No. 7 - Trail camera image of a fox on site.



Photograph No. 8 - Trail camera image of a rabbit on site; the majority of holes were in active use by rabbits.

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Appendix B – Full Reptile Survey Results

Surveyor	Catherine O'Reilly			
Date	12.04.19			
Time	10:00			
Temperature	13			
Weather	Sunny and dry			
Wind	WF1			
Tile No.	Species	Ad/J	Sex	Notes
-	-	-	-	-

Surveyor	Louise Barker			
Date	17.04.19			
Time	16:00			
Temperature	14			
Weather	Sunny and dry			
Wind	WF1			
Tile No.	Species	Ad/J	Sex	Notes
-	-	-	-	-

Surveyor	George Sayer			
Date	01.05.19			
Time	10:15			
Temperature	13			
Weather	Sunny			
Wind	WF1			
Tile No.	Species	Ad/J	Sex	Notes
-	-	-	-	-

Surveyor	George Sayer			
Date	03.05.19			
Time	10:00			
Temperature	13			
Weather	Sunny			
Wind	WF1			
Tile No.	Species	Ad/J	Sex	Notes
-	-	-	-	-

Appendix B – Full Reptile Survey Results

Surveyor	George Sayer			
Date	07.05.19			
Time	09:00			
Temperature	11			
Weather	Sunny intervals			
Wind	WF0			
Tile No.	Species	Ad/J	Sex	Notes
-	-	-	-	-

Surveyor	George Sayer			
Date	09.05.19			
Time	16:00			
Temperature	14			
Weather	Hazy, dry			
Wind	WF1			
Tile No.	Species	Ad/J	Sex	Notes
-	-	-	-	-

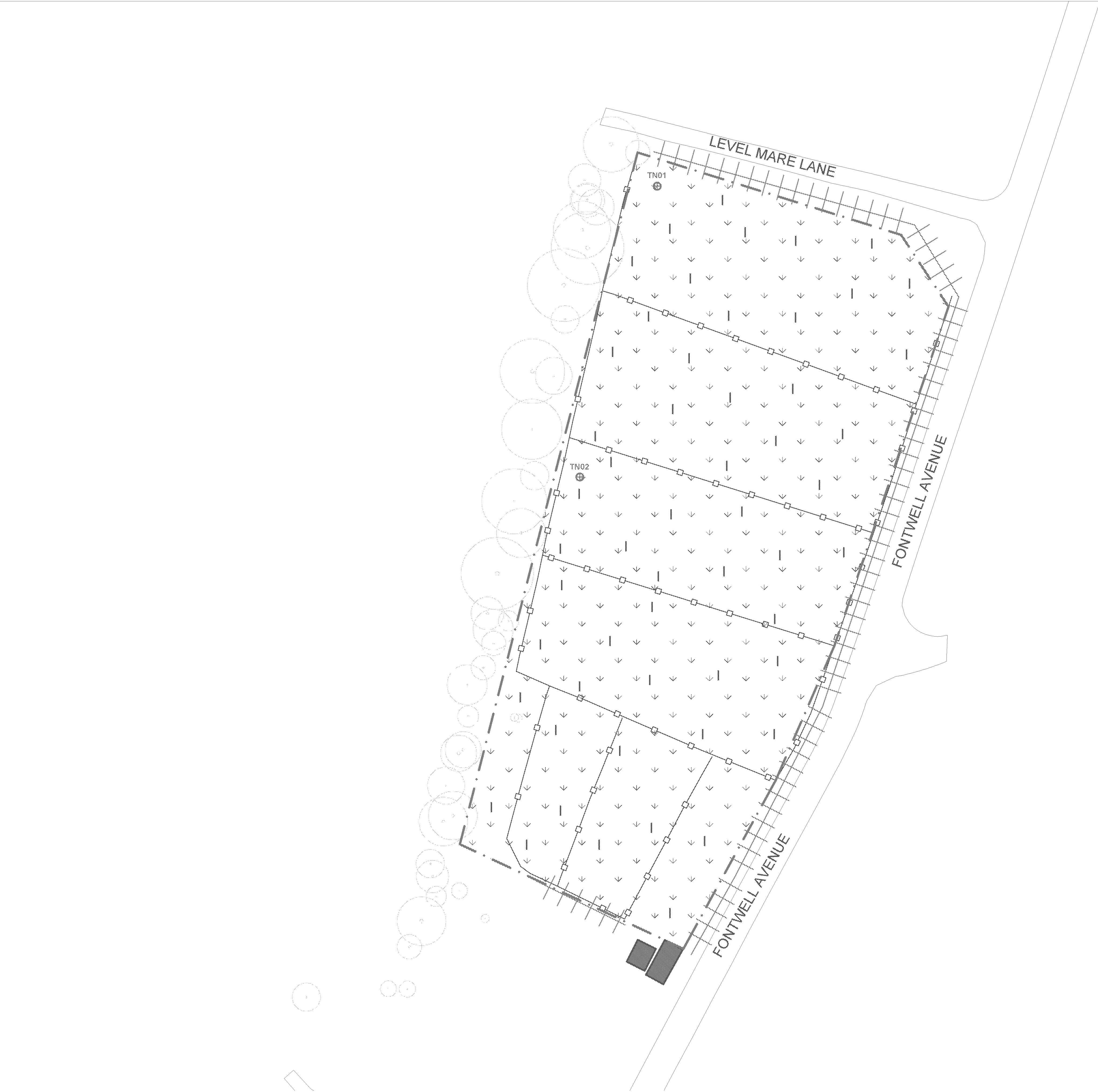
Surveyor	George Sayer			
Date	14.05.19			
Time	10:00			
Temperature	17			
Weather	Sunny intervals			
Wind	2			
Tile No.	Species	Ad/J	Sex	Notes
-	-	-	-	-

FIGURES:

Figure No. 01 – Site Habitat Plan

Figure No. 02 – Location of Artificial Reptile Refugia

Figure No. 03 – Location of Badger Sett Monitoring Points

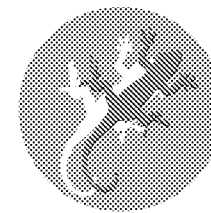


Legend

- Development Site Boundary / Survey Area.
- Target Notes.
- Existing Building.
- Fence.
- Improved Grassland.
- Species-Poor Hedgerow with Trees.
- Scattered Trees.

REASON OF ISSUE

Rev	Description	Date	Initials
00	Draft Issue	28.09.18	JH

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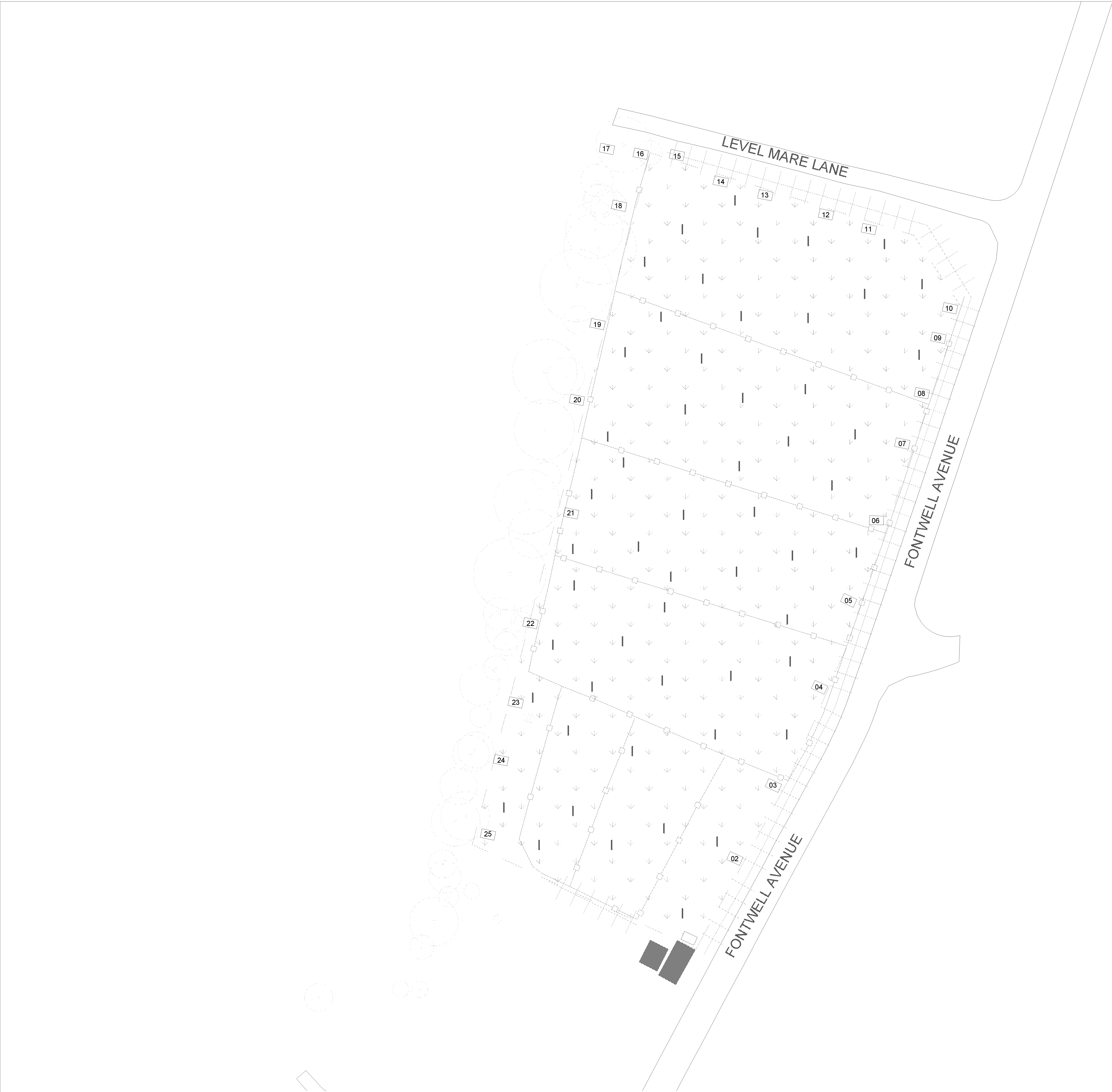
Client
Reside Developments Limited
Project Title and Location
Land at Fontwell Avenue
Fontwell, Eastergate, West Sussex

Drawing Title
Site Habitat Plan

Scale	Drawn	Approved	Date
1:500@A1	JH	LB	28.09.18

Drawing No	Revision
LLD1544-ECO-FIG-001-00	00

Figure No. 01 - Site Habitat Plan
Land at Fontwell Avenue, Fontwell, Eastergate, Weest Sussex

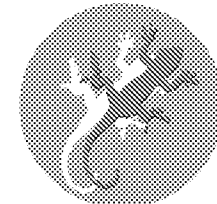


Legend

- Development Site Boundary / Survey Area.
- Reptile Refugia.
- Existing Building.
- Fence.
- Improved Grassland.
- Species-Poor Hedgerow with Trees.
- Scattered Trees.

PLANNING ISSUE

Rev	Description	Date	Initials
01	Planning Issue	22.03.20	LB
00	Planning Issue	22.05.19	WM

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<i>Project Title and Location</i> Land at Fontwell Avenue Fontwell, Eastergate, West Sussex			
<i>Drawing Title</i> Reptile Refugia Plan			
<i>Scale</i> 1:500@A1	<i>Drawn</i> WM	<i>Approved</i> LB	<i>Date</i> 22.05.2019
<i>Drawing No</i> LLD1544-ECO-FIG-002	<i>Revision</i> 01		

Figure No. 02 - Reptile Refugia Plan
Land at Fontwell Avenue, Fontwell, Eastergate, West Sussex



Legend

- Development Site Boundary / Survey Area.
- Camera Trap Locations.
- Existing Building.
- Fence.
- Improved Grassland.
- Species-Poor Hedgerow with Trees.
- Scattared Trees.

PLANNING ISSUE

Rev	Description	Date	Initials
00	Planning Issue	21.05.19	WM



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<i>Client</i> Reside Developments Limited			
<i>Project Title and Location</i> Land at Fontwell Avenue Fontwell, Eastergate, West Sussex			
<i>Drawing Title</i> Badger Sett Monitoring Plan			
<i>Scale</i> 1:500@A1	<i>Drawn</i> WM	<i>Approved</i> LB	<i>Date</i> 21.05.2019
<i>Drawing No</i> LLD1544-ECO-FIG-003-00	<i>Revision</i> 00		

Figure No. 03 - Badger Sett Monitoring Plan
Land at Fontwell Avenue, Fontwell, Eastergate, West Sussex

Report presented by



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