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Client:

Report	Preliminary Ecological Appraisal
Site Name	Land East of Linnet Lane, Burgess Hill
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Client	Sunley Estates Ltd
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1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd was instructed by Sunley Estates Ltd to conduct a Preliminary Ecological Appraisal (PEA) of the land to the east of Linnet Lane, Burgess Hill (RH15 9XY) (here after referred to as 'the site'). The purpose of this survey was to assess any ecological impacts that may arise as a result of the proposed development of the site in order to support an allocation for development within the Site Allocations Development Plan Document. The objectives of the survey were as follows:

- Identify and classify any priority habitats;
- Assess the ecological value of the site;
- Identify any signs of protected species and potential features that may support them (particularly in relation to bats);
- Make recommendations for further survey work as necessary;
- Make recommendations for any necessary ecological avoidance, mitigation and compensation measures where possible at a PEA stage;
- Make recommendations for site ecological enhancements as per planning policy.

1.2 Site Description & Location

The site is situated to the east of Linnet Lane, Burgess Hill, RH15 9XY (**Fig 1**) (approximate central Ordnance Survey Grid Reference: TQ 29870 19044) and consists largely of dense mixed scrub and immature woodland, with a small area of mature woodland along its eastern border. An unsurfaced footpath dissects the site running between Skylark Way and Southway Road. To the west, south and east the site is bounded by urban infrastructure, with an industrial park adjacent to its border in the east, and urban dwellings to both the south and west. Whilst there are a number of dwellings and associated gardens that back onto the northern boundary of the site the north-west corner is immediately adjacent to an area of UK BAP deciduous woodland. The wider environ is largely urban, with a sizable patch of amenity grassland located to the north of the site.

Figure 1. Approximate redline boundary for the proposed development (Google Earth 17/2/2020).



1.3 Proposed Allocation Details

It is proposed to allocated the site for residential development of up to 30 dwellings with a new access road from the existing development along Linnet Lane to the west of the site.

2.0 METHODOLOGY

2.1 Desk Study

2.1.1 Data Request

A data request was submitted to Sussex Biodiversity Record Centre (SxBRC) to ascertain any records held of nature conservation designations and protected species within 1 km of the boundary of the site.

The data search covered:

- Statutory designated sites
- Non-statutory designations such as SINCs
- Records of protected and notable species.

2.1.2 Waterbodies

Any ponds located within 500 m of the proposed development were searched for using Ordnance Survey maps and available aerial images.

2.2 Field Survey

2.2.1 Habitats

The field survey work which forms the basis of the findings of this report was carried out by Gareth Ainscough (the author), an Assistant Project Ecologist with Ecosupport (3 years post MSc graduation experience) on the 13th February 2020

The Phase 1 Habitat survey (JNCC, 2010) methodology was adopted which is a method of classifying and mapping wildlife habitats in Great Britain. It was originally intended to provide “...*relatively rapidly, a record of semi-natural vegetation and wildlife habitat over large areas of the countryside*”. The standard Phase 1 Habitat survey methodology has been ‘extended’ in this report to include the following:

- Floral species lists for each identified habitat;
- Descriptions of habitat structure, the evidence of management and a broad assessment of habitat condition;
- Mapping of additional habitat types (e.g. hardstanding);
- Identification of Priority Habitats under Section 41 of the NERC Act;
- Evidence of, or potential for, the presence of certain species/groups

2.2.2 Badger

The site was thoroughly searched for evidence of use by Badgers (*Meles meles*), with the specific aim of identifying the presence and location of any setts. In accordance with the *Badgers and Development: A Guide to Best Practice and Licensing* (Natural England, 2011) guidance, the survey accounted for an area covering a 30m radius from the site’s boundary (observed where possible i.e. does not conflict with private dwellings). Evidence of Badgers could include latrines, dung pits, feeding remains and foraging evidence, trails and setts.

2.2.3 Bats

An assessment was made of the suitability of the trees on site to support roosting bats based on the presence of any Potential Roost Features (PRFs during May 2019). This involved the use of 8 x 42 close focus binoculars and a high-powered torch (where required) for a more detailed inspection of any features. The survey conformed to current best practice guidance as described *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collins, 2016) and was carried out by Adam Jessop (2015 – 13366 – CLS – CLS).

2.3 Limitations

Whilst the Phase 1 Habitat survey and habitat condition assessment were conducted outside of the optimum time of year for recording vascular plants, the data collected is considered comprehensive enough to determine both the type of habitats on site and their associated condition, and therefore it is not considered to have a significant impact on the findings of this report.

In addition, due to the density of the scrub within the western portion of the site, access was largely restricted to the edges of this area. Notwithstanding this, due to the relatively small size of the compartment, it is considered that an accurate assessment was made of the both the type and conditions of habitats present within this section, and therefore it is also not considered to have posed a significant impact.

3.0 ECOLOGICAL BASELINE

3.1 Designated Sites

3.1.1 Statutory & Non-Statutory

The SxBRC data request (full report appended) did not identify any statutory designated sites from within the 1 km search radius with the only non-statutory site a Designated Road Verge located 0.6 km to the west of the site (and therefore outside of the zone of influence).

3.2 Vegetation Survey Results

The vegetation within the site has been described below using the broad Phase I habitat classification terminology as described with JNCC (2010) and The UK Habitat Classification Habitat Definitions Version 1.0. The below species noted should not be considered an exhaustive list and instead refer to dominant, characteristic and other noteworthy species associated with each community within the survey area. The habitat types on site comprise:

- Semi natural broadleaf woodland (*Woodland and forest – Other woodland; broadleaved*)
- Scrub (*Heathland and shrub – Bramble/Blackthorn/Mixed scrub*)

3.2.1 Semi- Natural Broadleaf Woodland

Two distinct woodland assemblages of this type were noted on site as follows:

3.2.1.1 Mature Oak Woodland

The area within the eastern portion of the site consisted of a mature Oak woodland (*Quercus spp*) (**Fig 2**), with Ivy (*Hedera helix*), Holly (*Ilex aquifolium*) and Bramble (*Rubus fruticosus*) noted within a suppressed understory, largely due to shading from the canopy. A compacted unsurfaced path with excavated bike ramps was noted running from the north to south through this woodland section.

Figure 2. A view of the mature Oak woodland present on site (Ecosupport 2020).



3.2.1.2 Immature Oak & Ash Woodland

The young broadleaf woodland comprises approximately two-thirds of the western portion of the site (**Fig 3**), with the majority of the larger trees/shrubs located towards the north-western corner of the site. The canopy consists of Oak and Ash (*Fraxinus excelsior*), with individual trees ranging between 4-8 metres in height. The understory consists of dense shrubs and scrub, dominated by Blackthorn (*Prunus spinosa*) with Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Dog-rose (*Rosa canina*), Bramble and occasional Beech (*Fagus sylvatica*) noted. A number of woodland species were noted, with Lords and Ladies (*Arum maculatum*), Wood Avens (*Geum urbanum*), Broad Buckler Fern (*Dryopteris dilatata*), Tutsan (*Hypericum androsaemum*), Harts Tongue Fern (*Asplenium scolopendrium*) and Herb Robert (*Geranium robertianum*) noted within the ground flora.

Figure 3. A photo taken from the south-western corner of site showing mixed scrub habitat with immature Oak & Ash woodland visible in the background (Ecosupport 2020).



3.2.2 Scrub

3 distinct scrub assemblages were noted on site as follows:

3.2.2.1 Mixed Scrub with Scattered Trees

The habitat immediately adjacent to immature woodland (**Fig 4**) within the western portion of the site was characterized as dense scrub with scattered trees, with Blackthorn dominating the area, with Hawthorn, Bramble, Holly and Dog-rose noted. The scattered trees consisted of immature examples of Oak and Ash.

3.2.2.2. Bramble Dominated Scrub

The habitat located adjacent to the east of the path (**Fig 4**) consists of dominating dense Bramble scrub, with limited Dog-rose, Oak and Ash noted

Figure 4. A photo taken of the bramble dominated scrub located within the eastern portion of the site. The Blackthorn dominated scrub is visible in the background, with the edge of the mature Oak woodland to the right (Ecosupport 2020).



3.2.2.3 Blackthorn Dominated Scrub

The northern portion to the east of the footpath consist of dense Blackthorn dominated scrub, with Holly, Hawthorn and Bramble noted.

3.3 Bat Survey Results

3.3.1 Pre-existing data

SxBRC have provided the following bat records from within 1 km of the site; Brown Long Eared (*Plecotus auritus*) 6 records, Serotine (*Eptesicus serotinus*) 2 records, Common Pipistrelle (*Pipistrellus pipistrellus*) 17 records, Soprano Pipistrelle (*Pipistrellus pygmaeus*) 1 record, Whiskered bat (*Myotis mystacinus*) (1 record) and Natterer's bat (*Myotis nattereri*) (2 records).

3.3.2 Foraging and Commuting Habitat

The habitat is dominated by woodland and although there is a lack of more open grassland features or rides, there are a number of flowering / fruits bearing woody species present which would attach a good diversity of invertebrate food sources. Taking the above into account, and the abundance of local records (especially for the more common UK species and woodland specialists such a BLE) the site is considered to be of **moderate to high** potential for foraging and commuting bats.

3.4 Badgers

SxBRC do not include confidential local records pertaining to Badgers within submitted data searches and therefore pre-existing information regarding this species is limited. No evidence of resident Badgers was noted whilst undertaking the walkover survey on site (although there was a limitation in this finding due to how dense the scrub was in places), however the site does support suitable foraging habitat for Badgers (bare ground which will be suitable for earthworm foraging).

3.5 Reptiles

3.5.1 Pre-existing Information

SxBRC returned records for all 4 common UK reptile species from within 1 km of the site with Slow Worm (*Anguis fragilis*) (11 records) and Grass Snake (*Natrix helvetica*) (14 records), Adder (*Vipera berus*) (1 record) and Common Lizard (*Zootoca vivipara*) (1 record).

3.5.2 On site Habitat Assessment

The vast majority of the site comprises woodland and scrub with the understorey largely formed of bare ground due to shading. Notwithstanding this, there are small areas of tussocky grassland which appear to be located within the very edges of the site on the western and southern boundaries and given the presence of reptiles within the adjoining site (when it was built), it is considered likely they would be present within these habitats. As such where the habitats are suitable, the site is considered to be of **high** potential for common reptile species.

3.6 Great Crested Newts

3.6.1 Pre-existing Information

SxBRC holds a total of 32 records for Great Crested Newts (*Triturus cristatus*) from within 1km of the site, recorded with a number of these from within the ponds located adjacent to the site's northern boundary. The location of the GCN records provided by SxBRC relative to the site are indicated in **Fig 5** below.

Figure 5. The local records of GCN presence relative to the site's location (yellow line) as provided by SxBRC.



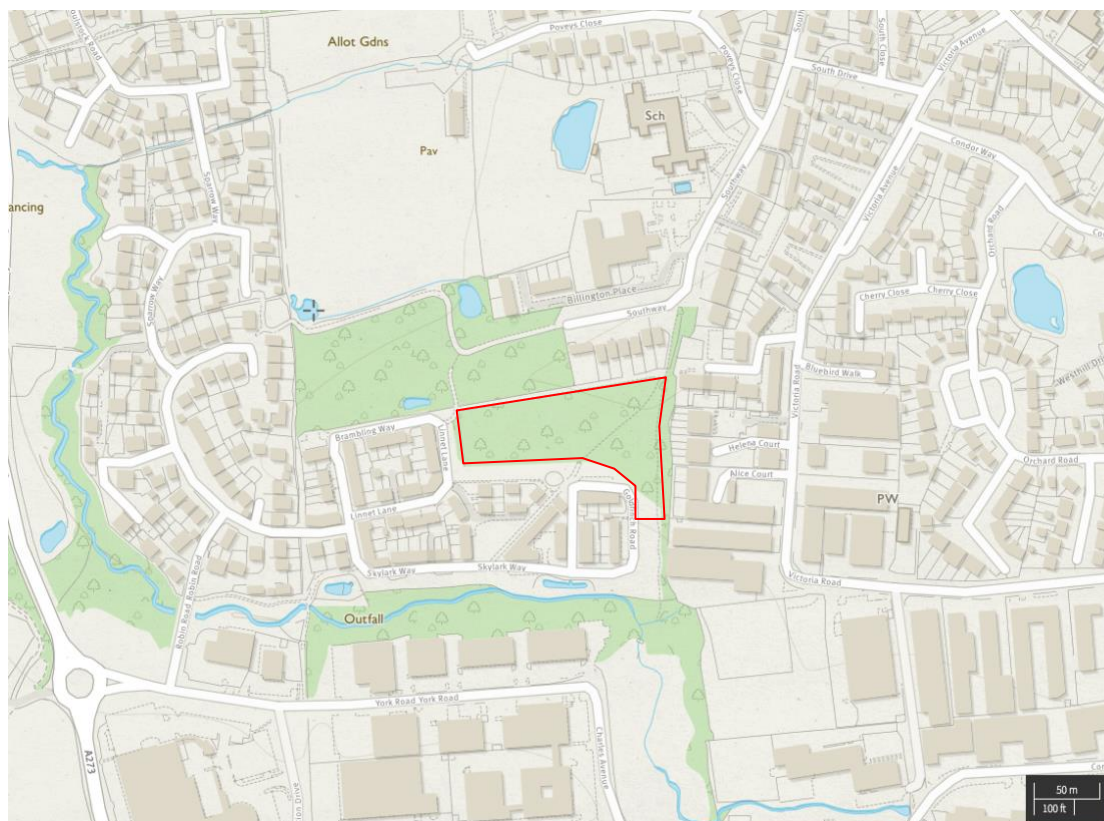
3.6.2 On site Habitat Assessment

Ideal terrestrial GCN habitat is described within the GCN Conservation handbook (Langton et al., 2001) as such:

'The primary requirements for great crested newt terrestrial habitats are that they should provide (1) permanent areas of refuge habitat for shelter in the more extreme weather conditions (i.e. drought in summer and freezing in winter), (2) daytime refuges, (3) foraging opportunities, and (4) dispersal opportunities. Permanent refuge habitat can be accommodated by ground cover of various kinds. Rough (especially tussocky) grassland, scrub and woodland may be used by newts as a shady refuge from hot, dry conditions. Broad-leaved woodland appears to be able to support higher densities of newts than coniferous woodland.'

Taking the above descriptions into account, the site would be considered to support habitats that are of moderate – high (tree lines, woodland and more unmanaged grassland areas) potential for GCN. The presence of what appears to be a well-established GCN metapopulation within the wider area and within the ponds adjacent to the north of the site (**Fig 6**) would also increase the likely of terrestrial GCN forging further away from their core ranges.

Figure 6. OS map of the site (redline) with the nearby ponds indicated. The three within the woodland on the northern boundary all appear to support known GCN populations based on the data returned by SBRC.



3.7 Hazel Dormouse

3.7.1 Pre-existing Information

SxBRC Have provided a single record of Dormouse (*Muscardinus avellanarius*) presence from within 1 km of the site with this located at the Springfields and Goddards Green Sub Station, Hurstpierpoint 0.7 km to the north west of the site. This record is from 2012 and not contiguous with the site although looking at older OS maps, it appears the areas of woodland on site and where the Dormouse were recorded would have been historically linked.

3.7.2 On site Habitat Assessment

The site contains favorable habitat features in the form of an area of semi natural woodland which includes Hazel (*Corylus avellana*), Oak (*Quercus spp*) and Bramble (*Rubus fruticosus*) which are often associated with Dormice as they provide key food sources (Bright et al., 2006). Additionally, the northern boundary of the site marked by further areas of woodland listed as S41 NERC Act priority habitats within the SxBRC data request. Therefore, with suitable habitats present on site, and connectivity linking it to favorable habitat beyond its boundaries, the site is considered to have **moderate potential** to support Dormice.

3.8 Birds of Conservation Concern (BoCC) / Notable Birds

3.8.1 Pre-existing Information

SxBRC have provided an extensive list of BOCC within 1 km of the site with the following considered to be some of the more relevant species listed;

Nightingale (*Luscinia megarhynchos*) 49 records, , Grey Partridge (*Perdix perdix*) 1 record, Red Kite (*Milvus milvus*), 2 records, Peregrine (*Falco peregrinus*) 1 record, Lapwing (*Vanellus vanellus*) 6 records, Curlew (*Numenius arquata*) 11 records, Cuckoo (*Cuculus canorus*) 6 records, Barn Owl (*Tyto alba*) 5 records, Tawny Owl (*Strix aluco*) 3 records, Lesser Spotted Woodpecker (*Dendrocopos minor*) 1 record, Dunnock (*Prunella modularis*) 56 records, Fieldfare (*Turdus pilaris*) 4 records, Song Thrush (*Turdus philomelos*) 35 records, Redwing (*Turdus iliacus*) 6 records, Starling (*Spinus vulgaris*) 46 records, House Sparrow (*Passer domesticus*) 37 records, Brambling (*Fringilla montifringilla*) 3 records and Yellowhammer (*Emberiza citrinella*) 8 records.

3.8.2 Site Assessment

The woodland and scrub habitat on site provide good opportunities for local breeding and nesting birds such as those listed in section 3.8.1 above. As such the site is considered to be of **moderate potential** for nesting and breeding birds.

4.0 MITIGATION & RECOMMENDATIONS

4.1 Introduction

The below sections outline a number of recommendations for further survey work required to fully assess the potential ecological impacts of the development of the site and ensure that proposed mitigation and compensation is appropriate and proportionate. In addition to this, measures are outlined to protect the existing features of value and provide enhancements post development.

4.2 Bats

4.2.1 Trees

A ground-based assessment of the trees on site will need to be undertaken once plans have been finalised and a AIA has been produced (after which a there will be a clearer understanding of which trees will be felled and which ones will be retained will be understood). Following the outcome of this inspection, further survey work may be recommended (i.e. climbed inspections or emergence / re-entry surveys).

4.2.2 Foraging and Commuting

Based on the moderate - high assessment for foraging and commuting bats, latest BCT guidelines suggest that (Collins (ed) 2016) (as shown in Table 8.3 from the guidelines) *'one survey visit per month will be required in appropriate weather conditions for bats. Further surveys may be required in these survey visits reveal higher levels of bat activity than predicted by habitat alone'*. In addition to this automated / static detector surveys are also required with *'One location per transect, data to be collected on five consecutive nights per month April-October'* suggested.

4.2.3 Minimisation of Disturbance to Nocturnal Wildlife

A more detailed scheme of minimising the potential impact of lighting upon sensitive species will be included within the bat results report following the conclusion of the proposed surveys.

4.3 Reptiles

Habitats within the site have been assessed as suitable to support reptiles. These include the areas of unmanaged grassland/ hedgerow interface along the borders grassland fields of the site which provide suitable habitat for supporting common species of reptile. ***It is recommended that a suite of reptile presence/likely absence surveys be completed.*** This would involve the laying of artificial refugia within areas of suitable habitat and checking the refugia on seven occasions between March and mid-October (optimal survey season April, May and September) with July and August typically not considered appropriate) in suitable weather conditions. Should reptiles be present it is recommended that suitable habitats are retained and protected during any works, with exclusion fencing used if necessary to ensure reptiles cannot enter the construction area. Translocation of reptiles out of the construction area may also be necessary.

4.4 GCN

Based on the nearby meta-population and the presence of high-quality terrestrial habitat for GCN on site, a mitigation / compensation strategy will be required outlining the details of a capture programme and areas of suitable habitat that can be retained. This report will be prepared as a stand-alone document to support any planning application and will be informed by updated GCN surveys covering all ponds relevant to the site within a 500m radius.

4.5 Dormice

Given the presence of scrub and wooded habitats both within and adjacent to the site with linkages to high suitability habitat within the local area, it is recommended that a nesting tube survey is set up following the methodology as described within Bright et al (2006). This survey will help to establish presence / absence on site and inform any required mitigation / compensation. Surveys would require the erection of 50 nesting tubes (that may require access into the adjoining hedgerow/woodland habitats) in suitable habitats with these then checked from July - November (in order to achieve an adequate survey effort score as per Bright et al (2006)).

4.6 Badgers

An updated walkover survey for Badgers will be required once site clearance works have commenced prior to mitigation works. Should this identify any potential Badger setts, further monitoring will be required to ascertain the status of the sett and inform any further mitigation requirements.

4.7 Birds

To avoid disturbance of nesting birds or damage to their nests, clearance of the trees and shrub should be undertaken outside of the bird-nesting season (typically March – August, dependant on weather). If this is not possible, the area to be cleared should be thoroughly checked by an ecologist immediately prior to clearance. If any active nests are found they should be left undisturbed with a suitable buffer of undisturbed vegetation (ca. 5 m) until nestlings have fledged.

4.8 Off Site Habitat Enhancements

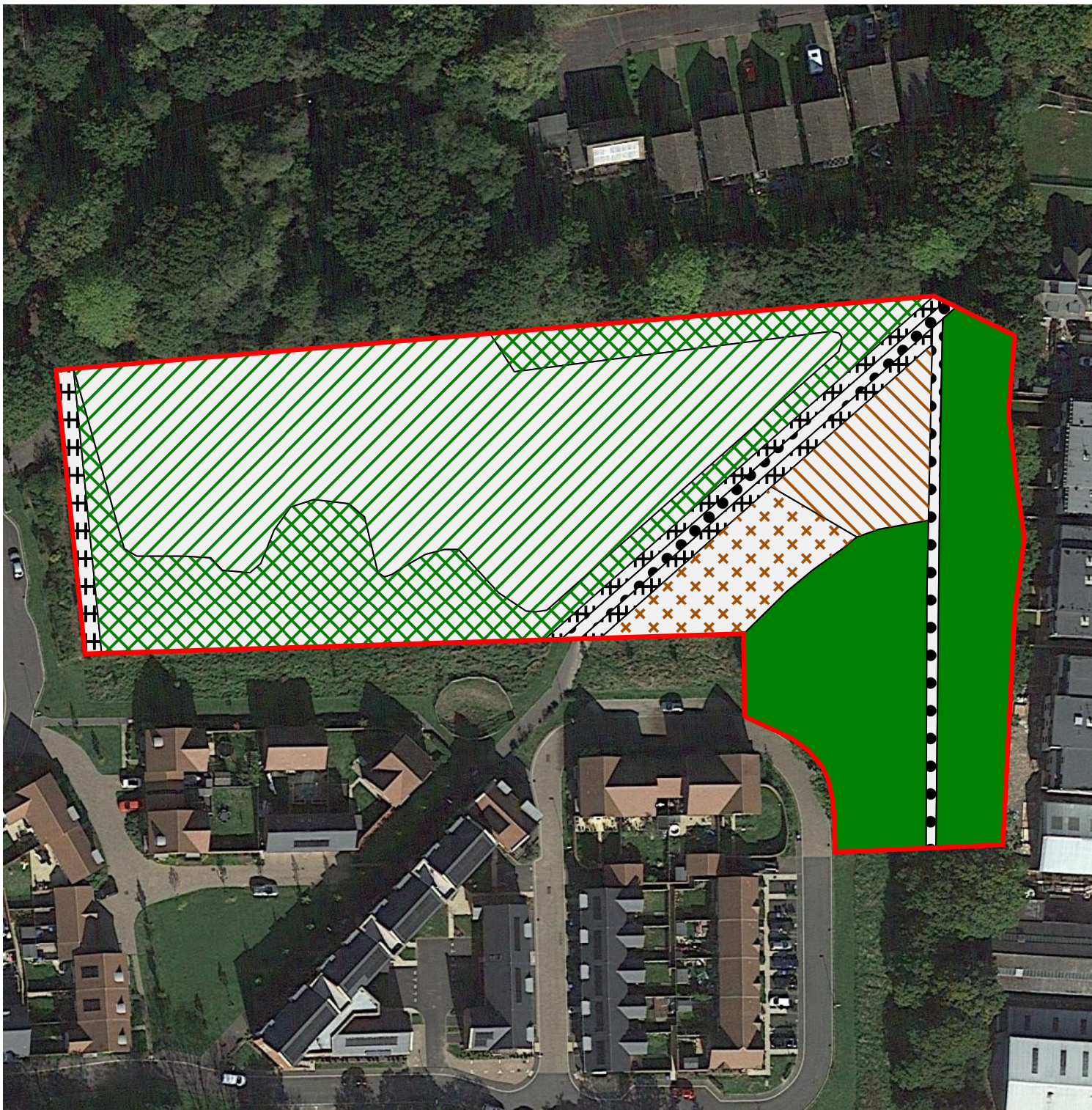
In order to ensure that any development of the site provides a net biodiversity gain, it is proposed that an addition financial contribution could be made towards off-site habitat enhancement. For example, one such potential project is an extension to the current Bedelands Local Nature Reserve (LNR). The current 33-hectare nature reserve is owned by Mid Sussex District Council and lies approximately 2.3km to the north-east of the site and consists of ancient meadows, woodland, hedgerow and ponds.

5.0 REFERENCES

Collins (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition

JNCC (2010) Handbook for Phase 1 Habitat Survey

Natural England, 2011 *Badgers and Development: A Guide to Best Practice and Licensing*



Legend

- Site boundary
- Broadleaved woodland - semi-natural
- Broadleaved woodland - young / immature
- Mixed scrub
- Bramble dominated scrub
- Blackthorn dominated scrub
- Fence
- Footpath



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Map:	Phase I Habitat Survey
Site:	Land off Linnet Lane, Burgess Hill
Client:	Sunley Estates Ltd
Date:	18/02/20

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