



Ecological Scoping Survey

Land Adjacent to Flats at 37-48 Lambs Close, Cuffley, Hertfordshire

On Behalf of:

Mr Joe Ricotta

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1.0 Introduction and Aims

1.1 Southern Ecological Solutions Ltd (SES) were commissioned by Mr Joe Ricotta to undertake an ecological scoping survey of Land Adjacent to Flats 37-48 Lambs Close, Cuffley, Hertfordshire. This survey was required to determine the ecological issues that may arise from development of the land and to advise on potential enhancements to biodiversity. The current development proposal for the site includes the reinstatement of existing parking spaces and erection of two flats above the surface level parking, accessed by stairs.

1.2 The objectives of this scoping survey were to:

- Make an initial assessment of the presence or likely absence of species of conservation concern;
- Identify any legal and planning policy constraints relevant to nature conservation which may affect the development;
- Determine any potential further ecological issues;
- Determine the need for further surveys and mitigation; and
- Make recommendations for minimising impacts on biodiversity and providing net gains in biodiversity where possible, in accordance with Chapter 11: *Conserving and Enhancing the Natural Environment*, of the National Planning Policy Framework (NPPF; DfCLG, 2012).

1.3 The site survey was undertaken by suitably qualified ecologist Michelle Tyrrell BSc (Hons) on the 12th October 2015. The weather conditions were sunny (cloud cover 25%), with a light breeze (Beaufort Scale 2) and good visibility. All areas within the site boundary were accessible. Boundary habitats along the southern and western boundaries were not visible due to fencing.

2.0 Methods

Desktop survey

2.1 SES commissioned an extensive data search for records of protected and notable fauna species and designated sites via the Hertfordshire Environmental Records Centre. The data search encompassed the study area, and up to 2km from its boundary for protected species and up to 5km for designated sites.

Scoping Survey

2.2 The field survey adopted similar methods to a Phase 1 survey (JNCC, 2010) of the proposed development site. This is a standard technique for obtaining baseline ecological information for areas of land, including proposed development sites.

2.3 The dominant and readily identifiable higher plant species identified in each of the various habitat parcels were recorded and their abundance was assessed on the DAFOR scale (Appendix 1):

- D Dominant
- A Abundant
- F Frequent
- O Occasional
- R Rare

2.4 These scores represent the abundance within the defined area only and do not reflect national or regional abundances. Plant species nomenclature follows Stace (1997).

2.5 Incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support legally protected species and other species of conservation concern.

3.0 Constraints

3.1 Desktop data searches are a valuable tool in evaluating a sites potential to hold rare and protected species, it is not however an absolute in confirming presence or absence of noted species due to the nature of how the records are collected.

3.2 The boundary habitats along the southern and western perimeters of the site were not visible due to fencing. However, any signs of digging or holes beneath these fences on the site boundary were noted if present. The above constraints are not considered significant.

4.0 Results

Desktop survey

4.1 A number of protected and noted species were recorded during the desktop data search:

4.2 European protected species recorded within 2km of the site include: Multiple bat species including: Common pipistrelle *Pipistrellus pipistrellus* (2002 – 2006); Soprano pipistrelle *Pipistrellus pygmaeus* (1998); Pipistrelle sp. *Pipistrelle sp.* (2003); Natterer's *Myotis nattereri* (2001-2004); Brown long-eared bat *Plecotus auritus* (2003) and Daubenton's *Myotis daubentonii* (1992 – 2004).

4.3 Species protected by UK legislation recorded within 2km of the site include Badger *Meles meles* (2011 – 2014). All reptile data pre-dates 1999.

4.4 Records of UK BAP/NERC Act priority species recorded within 2km of the site include the West European hedgehog *Erinaceus europaeus* in 1985.

4.5 The data search also highlighted a number of statutory protected sites within 5km of the site boundaries, 2km for Local Wildlife Sites (LoWS) and 7km for European designated sites, see Table 1 below:

Table 1: Statutory Protected Sites within the vicinity of site, listed in order of distance from site.

Site Name	Distance and Direction from Site	Reason for Designation
Cuffley Station Embankment LoWs	400m north	An area of embankment with grassy slopes, scrub and dumped hardcore providing habitat for the Common Lizard (<i>Lacerta vivipara</i>) and Slow Worm (<i>Anguis fragilis</i>). Designated due to reptile records - one of the best reptile sites in Hertfordshire.
The Dell LoWs	1km west	The Dell (13.71ha) is an old brick pit and surrounding area which has developed a mosaic of habitats including acid grassland plus heathland remnants, old mature scrub and old secondary woodland. The site is a remnant of the once extensive heathland/woodland complex of Northaw Common. The scrub is dominated by Hawthorn (<i>Crataegus monogyna</i>) with some Pedunculate Oak (<i>Quercus robur</i>) and Silver Birch (<i>Betula pendula</i>) while the woodland is mainly of old Pedunculate Oak with Hornbeam (<i>Carpinus betulus</i>), including large coppiced specimens, and Sycamore (<i>Acer pseudoplatanus</i>). Species recorded in the acid grassland areas include Heath Bedstraw (<i>Galium saxatile</i>), Lady's Bedstraw (<i>Galium verum</i>), Lesser Stitchwort (<i>Stellaria graminea</i>), Sheep's Sorrel (<i>Rumex acetosella</i>), Upright Tormentil (<i>Potentilla erecta</i>) and Heath Speedwell (<i>Veronica officinalis</i>). Wildlife Site criteria: Grassland indicators.
Cattlins Wood LoWs	1.4km south-east	Cattlins Wood (18.24ha) is an old semi-natural broadleaved woodland comprising mainly Pedunculate Oak standards with Hornbeam and Hazel coppice. Other structure trees include Ash (<i>Fraxinus excelsior</i>), Beech (<i>Fagus sylvatica</i>), Sweet Chestnut (<i>Castanea sativa</i>) and Sycamore. The wood supports a variable structure and is generally fairly open below. The ground flora supports several woodland indicators including Dog's Mercury (<i>Mercurialis perennis</i>), Giant Fescue (<i>Festuca gigantea</i>), Enchanter's Nightshade (<i>Circaea lutetiana</i>), Hairy-brome (<i>Bromopsis ramosa</i>), Broad Buckler-fern (<i>Dryopteris dilatata</i>), Wood Meadow-grass (<i>Poa nemoralis</i>) and Pendulous Sedge (<i>Carex pendula</i>). A stream crosses the wood in the north-east and wide grassy rides add habitat diversity. Wildlife Site criteria: Old secondary woodland with a semi-natural canopy and a varied structure.
Cattlegate Wood LoWs	1.4km south-west	Cattlegate Wood (12.11ha) is an ancient semi-natural Pedunculate Oak/Hornbeam woodland with dense mature Hornbeam coppice and Pedunculate Oak present as standards, maiden stems or coppice. There is also some Ash, birch (<i>Betula spp.</i>), Sycamore, willows (<i>Salix spp.</i>) and Hawthorn. The ground flora, though typically sparse, supports a good diversity of species with numerous woodland indicators recorded such as Bluebell (<i>Hyacinthoides non-scripta</i>), Giant Fescue, Wood Sorrel (<i>Oxalis acetosella</i>), Goldilocks Buttercup (<i>Ranunculus auricomus</i>), Common Dog-violet (<i>Viola riviniana</i>), Broad Buckler-fern and Lady Fern (<i>Athyrium filix-femina</i>). Two small ponds in the wood add to the diversity. Wildlife Site criteria: Ancient Woodland Inventory site; woodland indicators.
Northaw Great Wood LNR and SSSI	1.5km north-west	Northaw Great Wood (121ha) comprises mainly Oak, Birch and Hornbeam, with areas of Ash, Sycamore and Sweet Chestnut along with a variety of flora and fauna. Part ancient woodland, the wood has several times in its history been cleared and replanted, in addition to the regular traditional practices of coppicing and pollarding. While today quite dense, it would have been more open in earlier times.
Home Wood LoWs	1.5km north-west	Home Wood (24.65ha) is an area of very old scrub and plantation developed into semi-natural woodland. The canopy is mainly Pedunculate Oak and Hornbeam with birch and locally frequent Sycamore plus other species such as Beech, Wild Cherry (<i>Prunus avium</i>) and Hazel. Many of these species are present as coppice. The ground flora is diverse with many woodland indicators recorded including Dog's Mercury (<i>Mercurialis perennis</i>), Pendulous Sedge (<i>Carex pendula</i>), Opposite-leaved Golden Saxifrage (<i>Chrysosplenium oppositifolium</i>), Wood Sorrel (<i>Oxalis acetosella</i>), Bluebell, Yellow Pimpernel (<i>Lysimachia nemorum</i>), Goldilocks Buttercup (<i>Ranunculus auricomus</i>) and Common Dog-violet. A stream with deeply incised banks flows through the southern part of the wood and

Site Name	Distance and Direction from Site	Reason for Designation
		the damp conditions created provide important habitat for bryophytes and invertebrates. A sunken lane is present to the eastern side. Wildlife Site criteria: Old secondary woodland with a semi-natural canopy and varied structure; shown as woodland on Bryant's map (1822); woodland indicators.
Poyndon Farm LoWs	1.6km east	Poyndon Farm (3.69ha) contains a neutral semi-improved rough grassland with the greatest diversity occurring to the southern end of the site. Prominent species recorded in the sward includes Tufted Hair-grass (<i>Deschampsia cespitosa</i>), Sweet Vernal-grass (<i>Anthoxanthum odoratum</i>), Common Knapweed (<i>Centaurea nigra</i>) and Bird's-foot Trefoil (<i>Lotus corniculatus</i>). Other plants include Agrimony (<i>Agrimonia eupatoria</i>), Common Sorrel (<i>Rumex acetosa</i>), Meadow Buttercup (<i>Ranunculus acris</i>), Common Fleabane (<i>Pulicaria dysenterica</i>), Marsh Thistle (<i>Cirsium palustre</i>) and Ragged Robin (<i>Lychnis flos-cuculi</i>). A large Pedunculate Oak is present towards the south-west corner. Wildlife Site criteria: Grassland indicators.
Meadow W. of Whitehouse Farm LoWs	1.6km north-east	Meadow W. of Whitehouse Farm (1.96ha) comprises a neutral grassland with a damper area alongside a central drain. The sward is moderately diverse with species recorded such as Bird's-foot Trefoil, Meadow Buttercup, Oxeye Daisy (<i>Leucanthemum vulgare</i>), Meadow Vetchling (<i>Lathyrus pratensis</i>) and Lesser Stitchwort (<i>Stellaria graminea</i>). Soft Rush (<i>Juncus effusus</i>) and Ragged Robin occur in the damper ground. There are hedges around the boundary. Wildlife Site criteria: Grassland indicators.
Tolmers Park LoWs	2km north-west	Tolmers Park (4.79ha) contains a semi-natural woodland comprising several strips of woodland and a green lane to the east. The canopy is mainly Pedunculate Oak/Hornbeam with some areas of interplanted broadleaved and coniferous species. There are some large Pedunculate Oaks and areas of Hornbeam and Hazel coppice. Elder (<i>Sambucus nigra</i>) is frequent below. The ground flora supports a number of woodland indicators and is most diverse along the green lane. Species recorded include Dog's Mercury, Bluebell, Broad Buckler-fern, Wood Anemone (<i>Anemone nemorosa</i>), Ramsons (<i>Allium ursinum</i>), Yellow Archangel (<i>Lamium galeobdolon</i>), Giant Fescue, Wood Melick (<i>Melica uniflora</i>) and Common Dog-violet (. Wildlife Site criteria: Ancient woodland with a semi-natural canopy and field evidence suggesting an ancient origin; present on Bryant's map (1822); woodland indicators.
Wormley Hoddesdonpark Woods SSSI and SAC	2.2km north	Wormley Hoddesdonpark Woods (335.53ha) is one of two outstanding examples in England of a type of oak-hornbeam forest mainly found in central Europe. Sessile and pedunculate oaks are key components of the canopy. Hornbeam is mixed with oaks and other trees in areas of high forest and is also present as almost pure stands of stored coppice, some of which are being brought back into a coppice cycle. Over 95% of the site is ancient woodland. It includes areas of wood-pasture and many veteran pollards and coppice stools. Distinctive features of the ground flora include stands of great wood-rush and an unusual moss community more typical of continental Europe. Wildlife Site criteria: Sub-Atlantic and medio-European oak or oak-hornbeam forests of the Carpinion betuli

LoWs = Local Wildlife Site; **SSSI** = Site of Special Scientific Interest; **LNR** = Local Nature Reserve; **SAC** = Special Area of Conservation.

Scoping Survey

- 4.6 The plant species recorded in each of the habitat types identified on site during the survey are tabled in Appendix 1.

- 4.7** The site (c. 0.1ha) currently contains a disused car park with eleven structurally damaged garages on the northern boundary shown within the redline boundary of Appendix 2. The site is found at the end of Lambs Close containing four three-story cross shaped blocks of flats. Residential gardens border the western and southern boundaries. Amenity grassland is found to the north and vegetation adjacent to the railway line is found to the east.
- 4.8** The wider landscape is residential development to the west, north and east with a railway line heading from south to north running adjacent to the site. Towards the south-east there is a patchwork of fields.
- 4.9** The development proposal for the site includes the reinstatement of existing parking spaces and erection of 2 two-bedroom flats above the surface level parking, accessed by stairs.
- 4.10** There is just one habitat type within the site and on the site boundaries:
- Hard Standing and Buildings
- 4.11** This habitat type is described below and the relative distribution is shown on the table within Appendix 1.

Hard Standing and Buildings

- 4.12** The entirety of the site is hard standing including eleven garage buildings which are disused due to subsidence. The majority of the garages have no roofs (Plate 1 in Appendix 3).
- 4.13** There are a number of trees off site which extend into the site's boundary. These include two large oak trees in residential gardens along the north-western boundary (Plate 2). Other trees within the southern residential gardens include Hornbeam *Carpinus betulus*, Silver Birch *Betula pendula* and Conifer species (Plate 3).

5.0 Findings and Recommendations

Statutory Sites / Non-Statutory Sites

- 5.1** The data search highlighted Wormley-Hoddesdonpark Woods SAC is approximately 2.2km north of the site, primarily designated for its Sub-Atlantic and Medio-European Oak or Oak-Hornbeam forests. This designation is afforded protection under European as well as UK law. As such all direct/indirect effects should be considered in accordance with regulation 61 of the Conservation of Habitats and Species Regulations (2010).
- 5.2** It is considered that there will be no direct effects from the proposed development on the above site, due to the distance involved (2.2km north) and the small scale of the proposed development (parking and one story for two flats).

- 5.3** Pollution events caused via the construction and operation stages of the development are not predicted to represent a significant adverse effect upon citation or qualifying features of any of the designated sites due to the distance from the proposed development area (2.2km) as well as the small scale of the development. This prediction is made considering the evidence available and air quality assessments have not informed this assessment. Pollution prevention measures in line with common industry best practice should be appropriated. No other indirect effects such as increases in recreational pressure are predicted given the small scale of the proposed development.
- 5.4** There is one statutory SSSI and LNR (Northaw Great Wood) within 2km of the site. These designations are afforded protection under UK law and/or are a material consideration under planning policy and, as such, direct and indirect effects should be sufficiently considered in accordance with the WCA (1981) as amended. This site is 1.5km north-west of the site, thus the proposed development is not predicted to have any direct effects on this designated site. Indirect effects are considered unlikely due to the distance involved and the very small proposed development (0.1ha).
- 5.5** There are eight non-statutory LoWs (Cuffley Station Embankment, The Dell, Cattlins Wood, Cattlegate Wood, Home Wood, Poyndon Farm, Meadow W. of Whitehouse Farm and Tolmers Park) within 2km of the site. Cuffley Station Embankment is the closest, situated over 400m north of the site, thus the proposed development is not considered to confer any direct effects on these designated sites. Indirect effects through pollution are thought to be the only possibility. To mitigate impacts of pollution on the above site the pollution prevention measures in line with common industry best practice (Environment Agency, 2001-2011) should be appropriated.
- 5.6** It is thought that with suitable mitigation the proposed development site is highly unlikely to result in significant adverse effects upon designated sites within the wider landscape.

Protected Habitats

- 5.7** There were no protected habitats found on site during the survey.

Species of Conservation Concern

Plants

- 5.8** No plant species recorded on site are listed under Schedule 8 of the WCA 1981 (as amended) 1981, and it is considered that none are rare or threatened. In addition no invasive species listed under schedule 9 of the WCA (as amended) 1981 were recorded within the sites boundaries.

Bats

- 5.9** All bat species are legally protected under section 9 of the Wildlife and Countryside Act (1981) (as amended) and regulation 41 of The Conservation of Habitats and Species Regulations (2010) thus making bats a material consideration of the planning process.

- 5.10** The garages on site were externally inspected following Bat Conservation Trust (BCT) guidance (Hundt, 2012). These buildings were fenced off due to the danger from subsidence but the inside was visible from the open entrance way. Detailed observations were made on the presence of bats (live and/or dead) or evidence of occupation by bats including bat droppings, scratch marks at potential access points, urine staining and characteristic staining and smoothing of the tree bark made by the fur of bats.
- 5.11** None of the garages displayed potential for roosting bats due to a lack of gaps, crevices as well as the majority of the garages having no roofs. It is considered that further surveys are not thought necessary.
- 5.12** Two large Oak trees were found adjacent to the western site boundary containing suitable features for roosting bats facing towards the site. Trees were inspected from ground level following the BCT guidelines looking for features, such as significant cracks, rot holes, lifted bark and large aerial deadwood. The northern Oak tree contained some limited peeling bark (Plate 4) and a single small rot hole (Plate 5) facing the development. The southern tree also contained a small rot hole (Plate 6). These 3 features are considered to provide limited potential to support roosting bats and as such these trees have been classed as Category 2 trees according to the BCT guidelines criteria (Hundt, 2012) shown in Table 2 below.

Table 2. BCT Tree Assessment Criteria

Tree category	Criteria
Category 1*	Trees with multiple, highly suitable features capable of supporting larger roosts.
Category 1	Trees with definite bat potential, having fewer suitable features than Category 1* trees or with potential for use by single bats.
Category 2	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree has some features which may have limited potential to support bats.
Category 3	Trees with no potential to support bats.

- 5.13** Due to these trees being classed as category 2 trees best practice recommends retention of these trees or soft felling and sensitive lighting detailed in section 5.15.
- 5.14** The habitats adjacent to the site on the eastern and southern boundaries could provide some potential value to local bat populations for foraging and / or commuting, especially when considered in conjunction with the offsite railway vegetation. The hard standing and buildings on site are not considered to provide suitable foraging or commuting habitat for bats. With consideration to retention of boundary habitats and sensitive lighting (such as using low level lighting, avoiding lighting the boundary habitats and cowls/hoods) this use would be expected to continue post development. As such with inclusion of sensitive lighting, no further activity assessment is considered necessary.

5.15 Development close to the off site Oak trees could potentially reduce the functionality of these areas for bats through increased lighting. It is recommended therefore, that bat sensitive lighting be used on the site to mitigate for any potential adverse effects upon these trees and boundary habitats potentially of value to local bat populations. Lighting should be considered as it can affect bats in a number of ways:

- Lighting close to a roost or that illuminates a roost entrance, is likely to delay emergence affecting social and foraging behaviour, and may cause a roost to be abandoned.
- Many bat prey-species (e.g. moths and other flying insects) are attracted to artificial light and bats are regularly observed feeding around lighting. Although this may seem to benefit some species, others avoid lighted areas and are therefore likely to suffer reduced foraging habitat and disruption where lighting is installed. Changes in prey-species distribution brought about by artificial lighting may also contribute to the decline of some species.
- Light path disruption – lighting can create barriers to flight paths that bat species will not cross (e.g. between roosts and foraging habitat) causing isolation of roosts and disruption to foraging behaviour, forcing them to find alternative routes to feeding grounds. Lighting adjacent to green corridors should be minimal.

5.16 Impacts caused by external lighting on bats can be minimised with the inclusion of certain measures, which are detailed below:

- Impacts can be minimised through the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to UV filtration characteristics.
- Lighting should be directed away from bat foraging areas and roost sites (e.g. hedgerows and trees) using cowls, hoods, etc.
- The level of the lighting columns should be as low as possible. For larger columns, light can be directed downwards at a more acute angle to reduce horizontal spillage.
- Light levels should be as low as guidelines will permit. If lights are not needed then there should be none. There should also be periods of complete darkness during the night so lighting should be set on intermittent timers where possible.

5.17 To enhance the site for bats, bat boxes/tubes could be installed on the proposed buildings, ideally along the eastern boundary, away from artificial light. There are numerous bat box designs but the Schwegler universal bat box 1FFH provides excellent summer roosting conditions for crevice inhabiting species including common pipistrelle *Pipistrellus* and Natterer's bat *Myotis nattereri*.

Birds

5.18 The versatility of most bird species means they can utilise almost any habitats encountered. The sites' habitats provide some foraging and nesting opportunities for several bird species (garages). A handful of bird nests were also found inside the garages with roofs.

5.19 All breeding birds are protected under the Wildlife and Countryside Act 1981 (as amended). Therefore, if any nesting bird habitat is to be lost (garages and trees) it should be cleared outside of the nesting season (which is generally March to August) or after an ecologist has confirmed active nests are not present.

5.20 It is considered that the development of the site will not significantly adversely affect local bird populations. Enhancements could be undertaken through installation of various bird boxes to provide nesting habitat for a variety of species post-development. Bird boxes could be installed on the proposed buildings and/or on nearby trees to offer additional nesting resources.

Badgers

5.21 Badgers *Meles meles* are legally protected under The Protection of Badgers Act (1992) and as such, are of consideration when applying the principles of the NPPF (DfCLG, 2012). It is a criminal offence to:

- Wilfully kill, injure, or take any badger;
- Possess or cruelly ill-treat a badger;
- Possess any dead badger or part of one;
- Possess or control a living, healthy badger;
- Intentionally or recklessly damage, destroy or obstruct access to a sett, or disturb a badger whilst it is occupying a sett.

5.22 The data search indicated recent records of badgers within 2km of the site boundary (2011-2014). No evidence of current badgers were recorded on the site during the survey (e.g. setts, pathways, latrines, snuffle holes, footprints or hairs). The site itself has very little value to badgers due to a lack of vegetation and food resources. The southern and western boundaries of the site comprised wooden fencing, showing no signs of mammal movement onto the site. The area of land between the eastern boundary and railway had recently been managed but displayed no signs of badger setts or movement onto the site. It is considered that no further surveys are necessary.

5.23 General precautionary construction techniques sympathetic to badgers (applicable to most sites) should also be used, such as:

- Covering trenches at night or leaving a plank of wood leant against the side to ensure they can escape if they were to accidentally fall in; and
- Covering chemicals overnight.
- In the unlikely event that a badger sett/s are observed around the boundaries of site during works, works should cease and a suitably qualified ecologist contacted.

Reptiles

5.24 The four common reptiles species found throughout Britain, common lizards *Zootica vivipara*, slow-worms *Anguis fragilis*, grass snake *Natrix natrix*, and adder *Vipera berus*, are primarily legally protected under the Wildlife and Countryside Act 1981 (as amended) making it an offence to:

- Intentionally, or recklessly, kill or injure any of the above species;
- And/or; sell, or attempt to sell, any part of the species, alive or dead.

5.25 Almost the entirety of the site provides little or negligible suitable habitat for common reptile species due to comprising hard standing and buildings. The railway line connects with Cuffley Station Embankment LoWs 400m to the north, designated for its reptile populations. However, the data search only provided records pre-dating 1999 so it would seem these populations are now not found in these areas or are not surveyed. The vegetation connecting Cuffley Station Embankment LoWs southwards to the site and beyond does not appear to provide suitable habitat for reptiles to utilise, such as grasslands/edge habitat. Due to the lack of suitable habitat for reptiles it is highly unlikely they would be utilising any areas of the site or boundaries of site and no further surveys are required.

Small mammals: BAP Priority Species/NERC Species of Principal Importance

5.26 The data search identified records of West European hedgehog *Erinaceus europaeus* within 2km of the site from 1985. The site provides no foraging habitat on site and is almost inaccessible by the boundary fence lines. Further surveys are not deemed necessary. If fencing is to be erected within the site boundary, particularly on the eastern boundary of the site, fence panels could be raised to allow Hedgehog movement.

Hazel dormouse

5.27 Dormice are arboreal and ideally require a habitat of a diverse range of trees and shrubs, which provide food resources throughout the year. They are generally found to have low population densities across their range due to specialist food requirements (Bright et al., 2006).

5.28 No records of dormice were identified within 2km of the site.

5.29 There is a lack of habitat to support hazel dormice on site e.g. woodland, hedgerows and scrub. The wider landscape contains a railway line to the east of the site which appears to comprise scattered trees and hedgerows that could be utilised by dormice. However, breaks in the railway line vegetation and the lack of any vegetation within the site boundary severely limits the ability of dormouse movement onto the site. In combination with absence of local records, it is considered that it is highly unlikely a viable population of dormice is present within the immediate landscape, therefore no further surveys are deemed necessary.

Invertebrates

- 5.30** Considering the small size of the site (0.1ha), the lack of natural habitat on site and the nature of the proposed development, it is not anticipated that the development will have undue negative impact upon local invertebrate populations (including noted/scarce invertebrates).

Great Crested Newt

- 5.31** The web-based data survey uncovered some records of Great Crested Newt *Triturus cristatus* pre-dating 1999 within 2km of the site. The site itself has some value to GCN as it contains building foundations that potentially provide sheltering habitat for GCN.
- 5.32** During a data search no ponds were found within 500m of the site boundary. Research suggests that it is common to encounter GCN: within 50m of a breeding ponds; further than 100m; at distances of between 150m – 200m where significant linear features are involved but are overall hardly ever encountered at distances between 200m – 250m from breeding ponds (Cresswell and Whitworth, 2004).
- 5.33** It is therefore predicted that the site is very unlikely to support GCN populations and no adverse impacts upon any potential GCN populations within the surrounding landscape will result from the proposed development. As such no further works are recommended.

6.0 Conclusions

6.1 The proposed development site (c.0.1ha) consists of eleven garages and disused parking. Two mature Oak trees border the western perimeter of the site. The current development proposals is for the reinstatement of existing parking spaces and erection of two flats above the surface level parking, accessed by stairs. The majority of the site is considered to be of negligible biodiversity value and consequently no further works have been recommended, adhering to planning policy and relevant wildlife legislation. It should be noted that the boundary habitats (tree lines along the south/east boundaries) have the potential to be of value to local bat populations and precautionary mitigation measures (outlined below) are recommended.

6.2 The following precautionary methods should be employed:

- Retention and protection of trees. Protection during construction should follow BS5387:12 (Trees in relation to design, demolition and construction – Recommendations).
- Site clearance should be undertaken outside the bird nesting season (March to August inclusive) or immediately after an ecologist has confirmed the absence of nesting birds;
- Precautionary construction techniques sensitive to badgers outlined in 5.19.
- Pollution prevention control should be put in place during the construction phase to prevent contamination;
- Bat sensitive lighting should be used on the site to mitigate for any adverse lighting effects upon trees and boundary habitats potentially of use to local bat populations (tree lines along the south/east boundaries);

6.3 Enhancements to increase the biodiversity value of the site have been recommended:

- Bats (sensitive lighting and bat boxes) and
- Birds (potential new planting in the amenity grassland to the north and bird boxes).
- Landscaping to include species of benefit to wildlife (Appendix 5)

6.4 It is considered that any potential adverse impacts from the proposed development upon specific protected species/habitats/designated sites will likely be able to be mitigated in line with relevant wildlife legislation and planning policy. With appropriate on site mitigation and some potential enhancements, a positive change in the biodiversity could potentially be achieved, in line with chapter 11: *Conserving and Enhancing the Natural Environment*, of the NPPF (DfCLG, 2012).

7.0 References

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Appendices

Appendix 1: Plant Species List and Relative Abundance

Common name	Latin name	Bare Ground
Common Nettle	<i>Urtica dioica</i>	R

DAFOR Scale; D=Dominant, A=Abundant, F=Frequent, O=Occasional R=Rare.

Appendix 2. Map of Land Adjacent to Flats 37-48 Lambs Close, Cuffley.



Appendix 3: Plates

Plate 1: Hard standing and garages along the northern area of the site. View: North-west.



Plate 1: Mature Oak trees from the residential development adjacent to the north-west boundary. View: North.



Plate 3: Trees along the southern boundary in residential gardens. View: South.



Plate 4: Peeling bark found on the north-eastern side of the northern Oak tree off site.

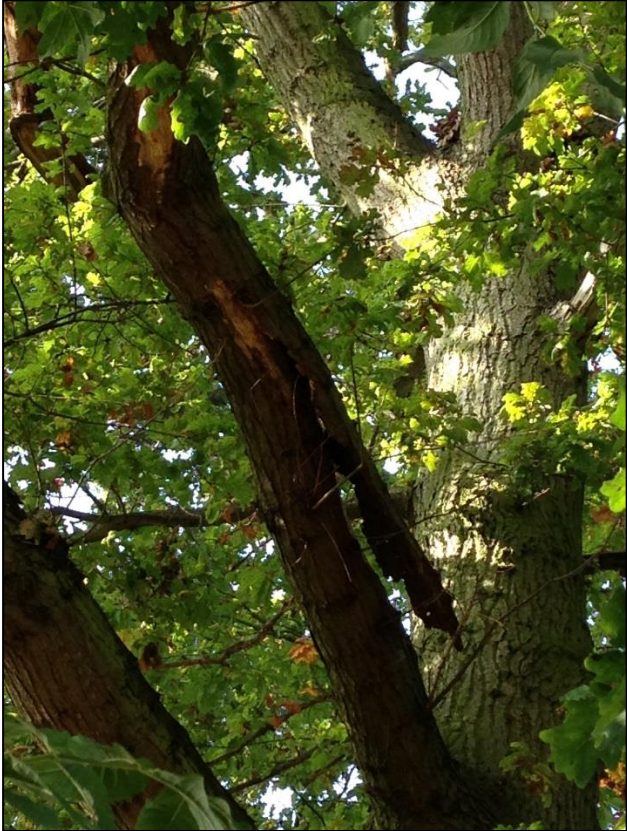


Plate 5: Small rot hole on eastern limb of the northern Oak tree off site. .



Plate 6: Rot hole on north-western limb facing east on the southern Oak tree.



Appendix 4: Current Development Proposals



Appendix 5: Trees and Shrubs of Wildlife Benefit

Common name	Scientific name	Benefits
Shrubs		
Barberry*	<i>Berberis spp.</i>	Nectar, fruit, nesting cover
Blackthorn	<i>Prunus spinosa</i>	Nectar, fruit, larval foodplant, nesting cover
Broom	<i>Cytisus scoparius</i>	Nectar, larval foodplant
Buckthorn [#]	<i>Rhamnus cathartica</i>	Nectar, berries, larval foodplant, nesting cover
Californian lilac*	<i>Ceanothus spp.</i>	Nectar, nesting cover
Cherry laurel* [#]	<i>Prunus laurocerasus</i>	Nectar (including extra-floral nectaries)
Dog rose	<i>Rosa canina agg.</i>	Nectar, fruit, larval foodplant, nesting cover
Dogwood	<i>Cornus sanguinea</i>	Nectar, fruit, larval foodplant
Elder	<i>Sambucus nigra</i>	Nectar, fruit, larval foodplant, nesting cover
Field rose	<i>Rosa arvensis</i>	Nectar, larval foodplant, fruit
Firethorn*	<i>Pyracantha spp.</i>	Nectar, fruit, nesting cover
Flowering currant*	<i>Ribes sanguineum</i>	Nectar, larval foodplant
Garden lavender*	<i>Lavandula x intermedia</i>	Nectar
Gorse	<i>Ulex europaeus</i>	Nectar, larval foodplant, nesting cover
Guelder rose	<i>Viburnum opulus</i>	Nectar, fruit, larval foodplant
Hawthorn	<i>Crataegus monogyna</i>	Nectar, fruit, larval foodplant, nesting cover
Hazel	<i>Corylus avellana</i>	Nuts, larval foodplant
Hebe*	<i>Hebe spp.</i>	Nectar
Holly	<i>Ilex aquifolium</i>	Nectar, fruit, larval foodplant, nesting cover
Laurustinus*	<i>Viburnum tinus</i>	Nectar, nesting cover
Mexican orange*	<i>Choisya ternata</i>	Nectar
Portuguese laurel*	<i>Prunus lusitanica</i>	Nectar, fruit, nesting cover
Rosemary*	<i>Rosmarinus officinalis</i>	Nectar
Spindle [#]	<i>Euonymus europaeus</i>	Nectar, fruits
Tutsan	<i>Hypericum androsaemum</i>	Nectar, fruit, larval foodplant
Wayfaring tree	<i>Viburnum lantana</i>	Nectar, fruit, larval foodplant
Yew [#]	<i>Taxus baccata</i>	Berries, nesting cover
Climbers		
Clematis*	<i>Clematis tangutica</i>	Nectar, seeds
Honeysuckle	<i>Lonicera periclymenum</i>	Nectar, fruit, larval foodplant, nesting cover
Ivy	<i>Hedera helix</i>	Nectar, fruit, larval foodplant, nesting cover
Traveller's joy	<i>Clematis vitalba</i>	Nectar, seeds, larval foodplant

*Non-native species

[#] Poisonous

**Native woody species