Preliminary Ecological Appraisal

Land at Glenelm and 160 Anyards Road, Surrey

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing. Whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date. This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated, only dominant species may be recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 INTRODUCTION

Background

1.1 The Ecology Partnership was commissioned by Shanly Homes to undertake a Preliminary Ecological Appraisal (PEA) and Biodiversity Net Gain Assessment of land at Glenelm and 160 Anyards Road, Cobham KT11 2LH, hereafter referred to as the 'site' (Figure 1).

1.2 The key objectives of a PEA (CIEEM 2017) are to:

- Identify the likely ecological constraints associated with a project;
- Identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy' (CIEEM 2016; BSI 2013, Clause 5.2);
- Identify any additional surveys that may be required to inform an Ecological Impact Assessment (EcIA); and
- Identify the opportunities offered by a project to deliver ecological enhancement.

Site Context

1.3 The site (TQ10776063) includes multiple buildings and hardstanding car parks. The site is surrounded by residential properties, with units of woodland and arable fields in the wider landscape.

Figure 1: Site red line boundary.

Proposed Development

1.4 The proposed development includes the removal of the existing dwelling, hardstanding and garages and the construction of multiple residential dwellings.

Figure 2: Proposals for the site.

Planning Policies

1.5 The site was surveyed to assess its ecological value and ensure the proposals complied with relevant planning policy and legislation. Policy guidance is provided by the National Planning Policy Framework (NPPF 2021) and Elmbridge Borough Council. The following policies from Elmbridge Borough Council are considered to be relevant to ecology, biodiversity, and nature conservation:

Elmbridge Council Core Strategy (adopted in 2011):

- CS13 - Thames Basin Heaths Special Protection Area
- CS14 – Green Infrastructure
- CS15 – Biodiversity

Elmbridge Development Management Plan (adopted in 2015):

- DM6 - Landscape and trees
- DM21 - Nature conservation and biodiversity

1.6 The Environment Bill received Royal Assent on 9th November 2021 and is now enacted as the Environment Act 2021. Part 6 (Nature and Biodiversity) and Schedule 14 of the Environment Act 2021 insert a new section 90A and Schedule 7A into the Town and Country Planning Act 1990 (TCPA), which contain the provisions requiring mandatory biodiversity net gain for development granted planning permission pursuant to the TCPA. These provisions are not yet in force, but, once they are brought into effect through implementing legislation, will require developments to provide a biodiversity value post-development that exceeds the predevelopment biodiversity value of the onsite habitats by at least 10%. These provisions are not expected to come into force until November 2023.

1.7 The site has therefore been surveyed to assess its ecological value and to ensure compliance with national and local plan policies and other relevant nature conservation legislation including; Wildlife and Countryside Act 1981, Natural Environment and Rural Communities Act 2006, and the Conservation of Habitats and Species (EU Exit) Regulations 2019.

1.8 The report has been produced with reference to current guidelines for PEA (CIEEM 2017) and in accordance with BS 42020:2013 Biodiversity – Code of Practice for Planning and Development.

2.0 METHODOLOGY

Desktop Study

2.1 A desktop study was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites and an internet-based aerial mapping service (maps.google.co.uk) was used to understand the habitats present in and around the site, including identifying habitat linkages and features (ponds, woodlands etc.) within the wider landscape.

2.2 Records of protected/notable species and non-statutory designated sites within 2km of the site were requested from the Surrey Biodiversity Information Centre (SBIC). Species records were screened for relevance and age and those that could occur on site.

Preliminary Ecological Appraisal

2.3 The site was surveyed on 14th March 2023 by ecologist Digby Hayden BSc (Hons) QCIEEM and assistant ecologist Benjamin Prego BSc (Hons) QCIEEM. The surveyors identified the habitats present, following the standard 'UKHab survey' auditing method developed by the Joint Nature Conservancy Council (JNCC) and the UK Habitat classification system (UKHab). The site was surveyed on foot and the existing habitats and land uses were recorded on an appropriately scaled map (JNCC 2010).

Bats – Building Preliminary Roost Assessment

2.4 The buildings were internally and externally assessed for their suitability for roosting bats following Bat Conservation Trust Good Practice Guidelines (3rd edition). The surveyors checked for evidence of roosting bat species and Potential Roosting Features (PRFs).

2.5 The surveyors assessed the buildings visually and searched for evidence such as:

- Staining beneath or around a hole caused by natural oils in bat fur.
- Bat droppings beneath a hole, roost or resting area.
- Bat droppings and/or insect remains beneath a feeding area.
- Audible squeaking from within a hole.
- Insects (especially flies) around a hole.
- Dead bats.

Protected Species Assessments

2.6 Any evidence of protected species was recorded. Standard methods of search and measures of presence, or likely presence based on habitat suitability were used for bats in trees (Collins 2016), breeding birds (BTO 2020), hazel dormice *Muscardinus avellanarius* (Bright *et al.* 2006), great crested newts *Triturus cristatus* (ARG 2010), reptiles (Froglife 2015), badgers *Meles meles* (Creswell *et al*. 1990) and water voles *Arvicola amphibius* (Strachan *et al*. 2011).

Limitations

2.7 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment. The site was visited over the period of one site visit, as such seasonal variations cannot be observed and

potentially only a selection of all species that potentially occur within the site have been recorded. Therefore, the survey provides a general assessment of potential nature conservation value of the site and does not include a definitive plant species list.

2.8 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on-site, based on the suitability of the habitat and any direct evidence on site. It should not be taken as providing a full and definitive survey of any protected species group. The assessment is only valid for the time when the survey was carried out. Additional surveys may be recommended if, on the basis of this assessment it is considered reasonably likely that protected species may be present.

3.0 PREVIOUS SURVEYS

3.1 A previous PEA (September 2021) was conducted by Bright Green Environmental Consultancy Ltd, which was based upon a preliminary site survey undertaken on 5th August 2020). The report concluded that no further surveys were required for reptiles; great crested newts; birds; hedgehogs or other protected, BAP or rare species.

3.2 One building on site (Glenelms bungalow) was considered to have '**low**' suitability for roosting bats due to the presence of gaps between the ridge and hip ridge tiles. An internal examination of the loft void was not possible at the time of the survey due to restricted access. The report concluded that further bat emergence surveys were required.

3.3 One bat emergence survey was undertaken on 17th September 2021. Two common pipistrelles *Pipistrellus pipistrellus* were recorded emerging along the ridge of the building.

4.0 RESULTS

Desktop Study

4.1 There are three internationally designated sites within 10km of the site boundary (Figure 3). These are listed below:

- Thames Basin Heath Special Protection Area (SPA) located *c.* 2.7km south-west of the site (Figure 3). This site is designated for its lowland heath which supports important populations of Dartford warbler *Sylvia undata*, nightjar *Caprimulgus europaeus* and woodlark *Lullula arborea*;
- South-West London Waterbodies Ramsar and SPA located *c.* 7km north of the site. This site is designated for supporting high percentages of biogeographical populations of many migratory bird species; and
- Mole Gap to Reigate Escarpment SSSI and Special Area of Conservation (SAC) located *c.* 7.6km south-east of the site. This site is designated for a large portion of the north downs, housing woodland, chalk grassland, chalk scrub and heathland.

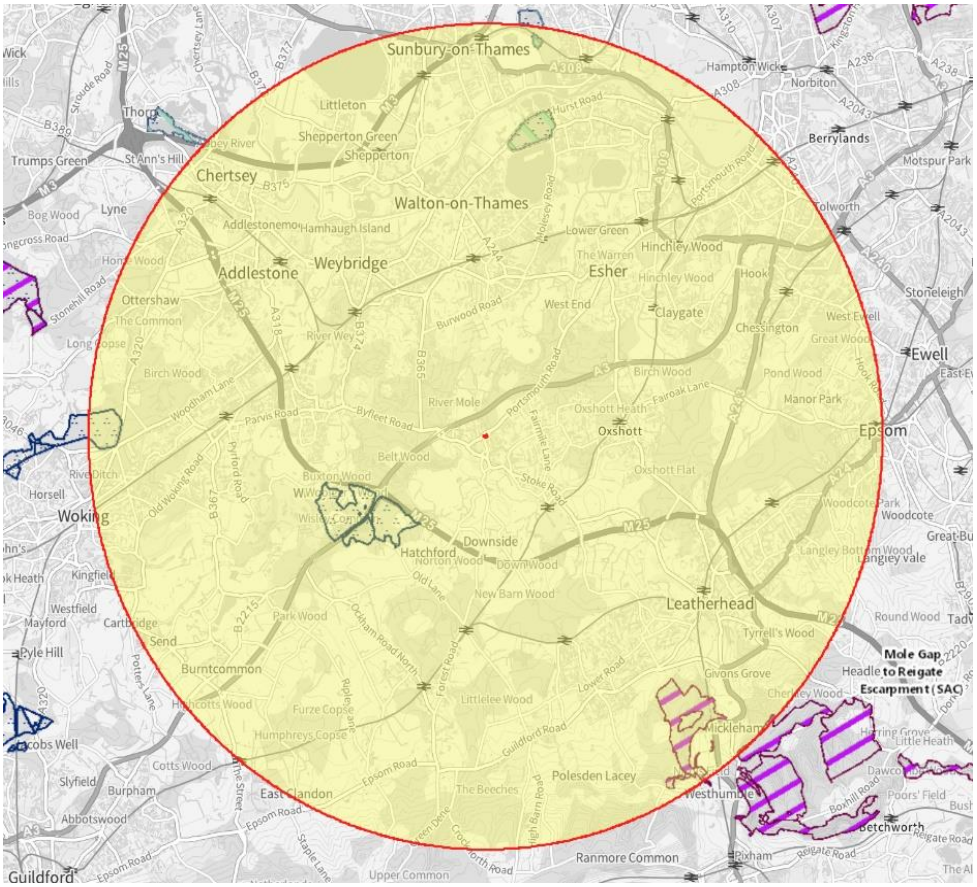

Figure 3: Internationally designated sites within 10km of the site boundary.

4.2 There are three statutory designated sites within 2km of the site boundary (Figure 4). These are listed below:

- Old Common Local Nature Reserve (LNR) located *c.* 40m north-west of the site;
- Esher Commons Site of Special Scientific Interest (SSSI) located *c.* 1.27km north-east of the site; and
- West End Common LNR located *c.* 1.85km north-east of the site.

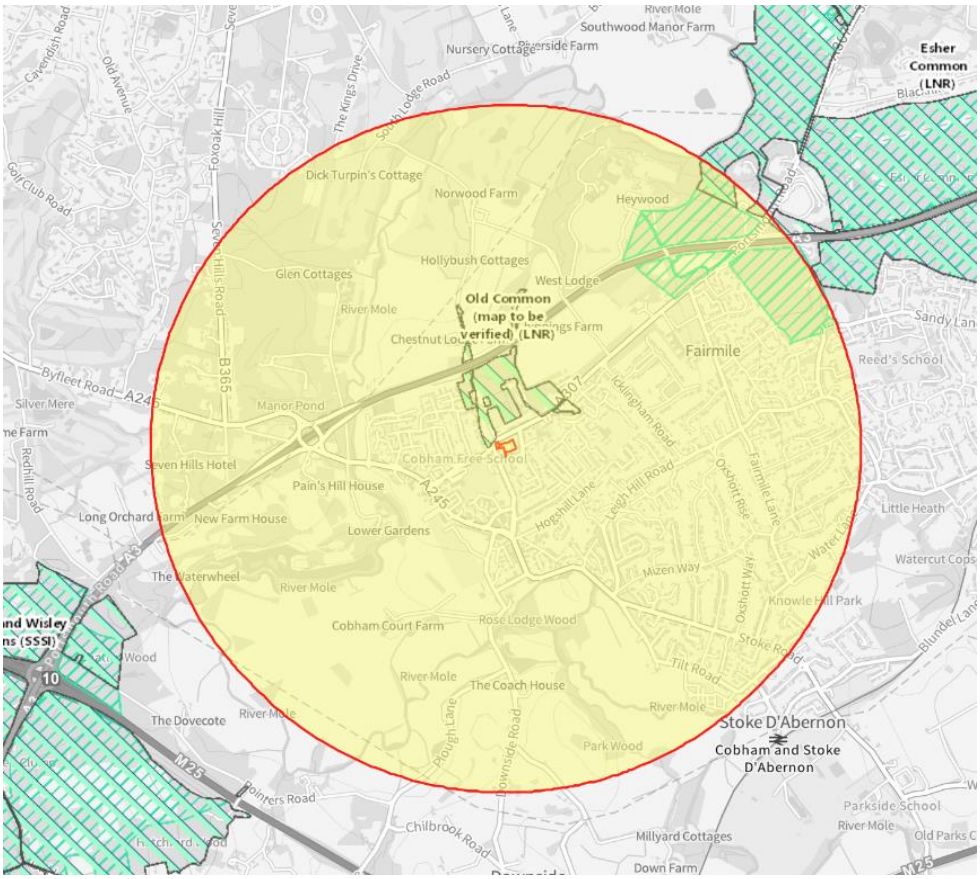

Figure 4: Statutory designated sites within 2km of the site boundary.

4.3 The closest non-statutory designated site is Old Common Site of Nature Conservation Importance (SNCI) located approximately 40m north of the site. The SNCI supports a small area of acid grassland, secondary wet and dry woodland, pond, neutral grassland and disused allotments.

4.4 There are several units of priority habitat within 1km of the site (Figure 5) including:

- Woodpasture and parkland located approximately 10m north-west; and
- Deciduous woodland located approximately 110m north.

Figure 5: Priority habitats within 1km of the site. Deciduous woodland (dark green), and woodpasture and parkland (light green with symbols).

4.5 OS maps and aerial images indicate one pond (P1) within 250m of the site (Figure 6).

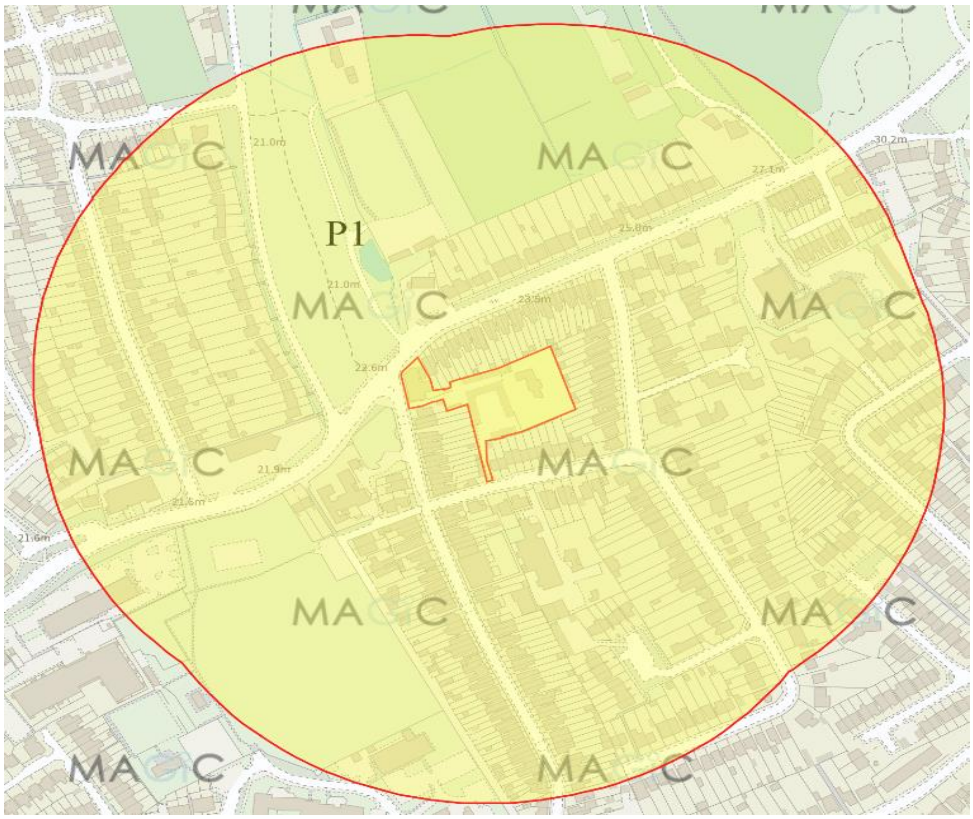

Figure 6: Ponds within 250m of the site.

4.6 A search revealed three past European Protected Species (EPS) licences were granted within 1km of the site boundary (Figure 7). These are listed in Table 1.

Table 1: European Protected Species Licences within 1km of the site.

Species	Distance/Orientation from site	License Type	License Duration/Date
Common pipistrelle	560m south-east	Damage of a resting place Destruction of a resting place	2015 - 2020
Common pipistrelle, Soprano pipistrelle	820m east	Destruction of a resting place	2015 - 2020
Common pipistrelle, Soprano pipistrelle	975m east	Destruction of a resting place	2015 - 2020

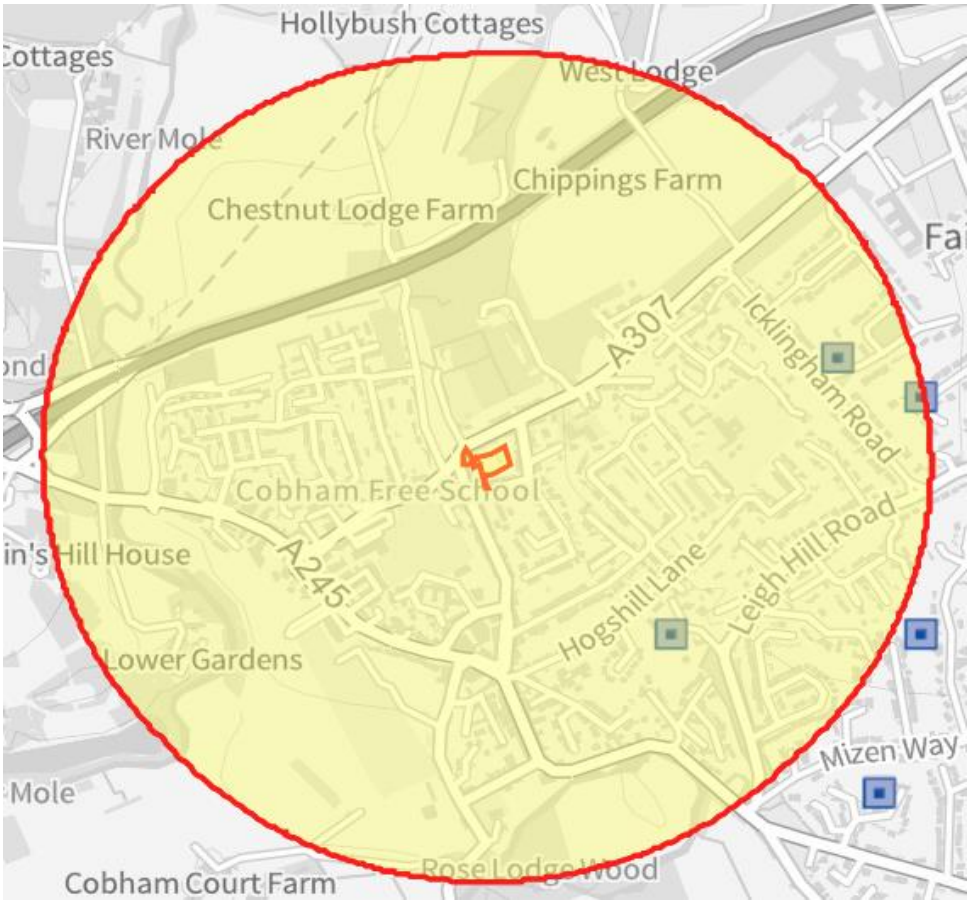

Figure 7: EPS Licences granted within 1km of the site boundary.

4.7 A 2km records search for local protected and notable species was requested from Surrey Biological Information Centre (SBIC). The records closest to site, recorded within the last 10 years and relevant to the habitats on site have been included in Table 2.

Table 2: Biological Records from **SBIC** *within 2km of the site*

Species	Status	Date of record and location from site
Common pipistrelle *Pipistrellus pipistrellus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c	28/09/2020 1.6km west
Soprano pipistrelle *Pipistrellus pygmaeus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c	28/09/2020 1.6km west
Brown long eared bat *Plecotus auritus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c	09/09/2020 1.9km southeast
Serotine Bat *Eptesicus serotinus*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c	09/09/2020 1.9km southeast
Noctule Bat *Nyctalus noctula*	Hab Reg Sch2, WCA Sch5 s9.4b/s9.4c	09/09/2020 1.9km southeast
Western European hedgehog *Erinaceus europaeus*	Bern-A3, UK BAP	09/09/2020 1.9km southeast
Adder *Vipera berus*	WCA Sch5 s9.1 kill	1989 – 1994 1.5km northeast
Roman snail *Helix (Helix) pomatia*	WCA Sch5 s9.1 kill/s9.1 take	05/05/2017 Within 2km
Stag beetle *Lucanus cervus*	Bern-A3, Hab Dir A2 NP	19/06/2016 Within 2km
Swift *Apus apus*	Birds Red	27/07/2015 1.6km southeast

Phase 1 Habitat Survey

4.8 A detailed habitat map is attached in **Appendix 1** and site photos are in **Appendix 2**.

4.9 It must be noted that areas of the garden habitat had been cleared prior to the PEA survey. The habitat map, shown in appendix 1 shows the current habitats and in appendix 2, shows the considered habitat map pre clearance.

Buildings

4.10 There were a total of twelve buildings on site. These included residential dwellings, sheds, garage blocks and a commercial property. The buildings are labelled in figure 8 below.

Building 1

4.11 This building was a residential bungalow in the eastern section of site. The roof was clay tiled with multiple missing lifted and cracked tiles. Internal access was not possible at the time of survey.

Building 2

4.12 This building was a small wooden shed in the corner of the garden. The roof was a pitched felt roof, which at the time of survey was in a state of disrepair.

Building 3

4.13 This building was a small redbrick outbuilding with a flat corrugated cement roof. Internally, the walls were plastered and no door was present. There was no loft void.

Figure 8: Locations of buidings on site

Building 4

4.14 This building was a pair of red brick garages, connected to the bungalow by a redbrick wall. It supported a felt roof, the western half of which was pitched, whilst the eastern half had collapsed. There was no loft void present.

Building 5

4.15 This building was a row of concrete garages with a corrugated asbestos roof. Some of these were open at the time of survey. No roof voids were present within any of the sections.

Building 6

4.16 This building was a row of brick garages with a flat corrugated asbestos roof. Some of these were open at the time of survey. No roof voids were present within any of the sections.

Building 7

4.17 This building was a single, brick garage with a flat, felt roof. No door was present, and the internal environment was open. No roof void was present.

Building 8

4.18 This building was a metal shipping container that was locked at the time of survey.

Building 9

4.19 This building was a pair of semi-detached properties. The northern half was an active retail establishment, and the southern half was an empty residential property. The building had a slate tiled roof, that was in moderate condition, with few lifted and cracked tiles. Internal access to either half of the building was not possible at the time of survey.

Building 10

4.20 This building was a row of brick garages with a flat corrugated asbestos roof. Some of these were open at the time of survey. No roof voids were present within any of the sections.

Building 11

4.21 This building was a row of brick garages with a flat corrugated asbestos roof. Some of these were open at the time of survey. No roof voids were present within any of the sections.

Building 12

4.22 This building was a row of brick garages with a flat corrugated asbestos roof. Some of these were open at the time of survey. No roof voids were present within any of the sections.

Buildings 13 & 14

4.23 These buildings were located outside the original survey area, however, as a result of the extension of the redline now fall within the application area. Satellite imagery indicates that Building 13 was a small flat-roofed structure, likely a garden shed or outbuilding. It was located in the garden of Building 14, which was a two-storey semi-detached residential brick building, with a pitched gable-end roof.

Vegetated Garden

4.24 An area of modified grassland was present around the bungalow on site. This had been left unmanaged and consequently was at a long sward at the time of survey. The amenity grassland is dominated by perennial ryegrass and red fescue, with abundant Yorkshire fog, and frequent false oat grass, pendulous sedge, and common nettle.

Bare Earth

4.25 A strip of bare earth bordered the eastern and southern edges of the vegetated garden. This area had been recently cleared, and a large brash pile was created from the removed vegetation. Tree stumps and shoots were still present within the area of bare earth. From the size and complexion of the brash pile, alongside the use of satellite imagery, it was evident that the area of bare earth was previously an area of dense, overgrown vegetation. Species present within the brash pile were dominated by bramble, with frequent rose, cherry, silver birch and ash.

Ornamental Planting

4.26 Small areas of ornamental planting were still present within the gardens on site. Species present included rose, spindle, buddleia, bay and bramble.

Non-Native Hedgerows

4.27 The site includes one small, non-native hedgerow. This hedgerow was dominated by bay, and also included ivy and garden privet.

Trees

4.28 The site supported multiple trees within the areas of garden. Species included ash, cherry, silver birch, fig, yew and cypress.

Protected Species

Bats

4.29 The site has a whole had historically been intensively managed and was considered unlikely to provide any significant foraging habitat. Despite the presence of a small area long-sward grassland which has been recently left unmanaged, due to the clearance of much of the garden shrubby vegetation and several of the garden trees, the site provided limited potential for foraging and commuting bats.

4.30 Building 1 is a single-storey bungalow constructed of bricks with a pitched clay tiled roof and wooden soffit boards. Multiple areas of lifted tiles were present, however internal access was not granted. From previous surveys, the building is a confirmed common pipistrelle roost. Further surveys are recommended.

4.31 Building 9 was a pair of semi-detached buildings, with a slate tile roof. The roof tiles were in moderate condition, with few slipped and lifted tiles and gaps in joins in lead flashing and ridges. Internal access was not granted at the time of survey. Due to the small number of external features, building 9 was considered to have 'low' potential to support roosting bats.

4.32 The other buildings on site were mainly flat, felt-roofed structures, with no voids and no suitable bat roosting features. The exceptions were buildings 2 and 3, which were small wooden and brick sheds respectively. These also had no potential bat roosting features. As such, all other buildings on site were considered to have 'negligible' potential to support roosting bats.

4.33 No assessment has been made of Buildings 13 and 14 as the redline was expanded to include these buildings after the survey.

Dormice

4.34 The site is isolated by main roads and residential curtilage on all sides of the red line boundary. Due to the isolated nature of the site and the surrounds, and the limited extent of the on-site habitats, it is considered highly unlikely that dormice would be present. Furthermore, there are no local records for dormice in the local area. Whilst clearance of shrubs has occurred prior to the site survey, it is considered that the extent and nature of the shrubs identified, the site would not be suitable for this species. It is considered unlikely dormice would be able to access the site and no further consideration for this species is detailed within this report.

Great Crested Newts

4.35 The site (amenity grassland) is not considered suitable habitat for great crested newts due to the isolated nature of the site, and the lack of ponds on site. One pond was present within 250m but was separated from site by the Portsmouth Road, a busy road with elevated kerbs on either side. The desk study returned no records of great crested newts within 1km of the site and the closest EPS licence is approximately 10km east of the site. As such, it is considered that great crested newts are not present within the site and no further consideration for this species is detailed in this report.

Birds

4.36 The trees, hedgerow and logpile on site have the potential to support nesting birds.

Reptiles

4.37 Although the amenity grassland currently supports a long sward height, the previous management, the isolated nature of the site alongside the lack of shelter on site was considered unsuitable for reptiles. The desk study returned a single reptile record for an adder located 1.5km northeast from 2015. As such, reptiles are not considered to be present on site and they will not be discussed further in this report.

Badgers

4.38 No badger setts or latrines were recorded on site. The grassland and bare earth on site provides some limited potential for foraging badgers. However, due to the isolated nature of the site, it is considered unlikely badgers are present on site and they will not be discussed further in this report.

Hedgehogs

4.39 The grassland and brash pile on site provide foraging habitat and shelter respectively for hedgehogs. The site is surrounded on all aspects by residential gardens, all of which may provide further habitat. A dead hedgehog was found on site. Consequently, it is considered that hedgehogs use the site for foraging and shelter.

Other Species

4.40 Due to a lack of suitable habitat, the site was not considered suitable for other protected species, such as water voles and otters.

5.0 DISCUSSION

5.1 The following paragraphs consider the effects of the development on designated sites, priority habitats and protected and priority species. Where the desk study and Phase 1 survey provide sufficient evidence for an assessment of effects on any of these groups to be taken through planning, these are detailed below, the need for additional surveys and when and how these should be completed are summarised, if required.

5.2 Provisional recommendations are also given for means to enhance biodiversity net gain, following the principle (CIEEM et al. 2016) of following the mitigation hierarchy of; avoidance, minimisation of loss, compensation on site and biodiversity offset.

Effects on Designated Sites

5.3 The site does not fall within or adjacent to any international or statutory designated sites.

5.4 The closest international designated site is Thames Basin Heath SPA, located approximately 2.7km northwest of the site. Whilst the development of the site itself would not directly affect the SPA, i.e. there is no land take or land fragmentation, as the site lies within the 'zone of influence', the indirect effects of this residential development could potentially affect the qualifying interest for which the SPA is designated. Therefore, the development must provide mitigation for the additional recreational pressure, which will be through contributions of Suitable Alternate Natural Greenspace (SANG) and Strategic Access Management and Monitoring (SAMM).

5.5 Esher Commons Site of Special Scientific Interest (SSSI) located *c.* 1.27km north-east of the site. The site does lie within the impact zones of this SSSI, however, the development lies outside any of the listed developments which would be considered to have potential impacts on the integrity of the SSSI. It is therefore considered that no impact on the SSSI is predicted as the result of the development.

5.6 The closest statutory designated site is Old Common Local Nature Reserve (LNR) located approximately 16m northwest, and the closest non-statutory designated site is Old Common Local Nature Reserve (LNR) located *c.* 40m north-west of the site. The development is restricted to the habitats set within a residential area, and is surrounded on all sides by development. The habitats within the site are not

functionally linked to the nature reserve and the habitats are separated from these off site habitats by the A307. The development will therefore not result in any similar habitat loss or impact the off site habitats through construction impacts. However, the increase in the local population resulting from the development may result in the increase of recreational use. However, there are numerous opportunities for recreation in the local area and the development is limited in extent. As such it is considered unlikely that the proposals would impact upon the integrity of these locally designated sites.

5.7 The habitats present on site are common and widespread within the local area, and are of little ecological value. The loss of these habitats will not fragment or isolate any habitat related to designated sites in the local area and the alteration of the habitats will not result in significant impacts on the ecological integrity of the wider landscape.

Effects on Priority Habitats

5.8 There are a number of priority habitat within the wider landscape, with the closest being woodpasture and parkland located approximately 10m northwest of the site. It is considered that the proposals will not have any direct or indirect impact on priority habitats within the local area due to the distance, the intermediate habitats present and small scale of the development.

Effect on On-site Habitats

5.9 Several areas of the garden habitat had been cleared prior to the site visit. The pre and post clearance areas have been identified in the appendices. It must be noted that the habitats cleared were a mixture of native shrubs set within a private garden environment. Although this vegetation would have retained some ecological value for nesting birds, its overall value is limited due to the isolated, urban nature of the site.

5.10 The modified grassland is a common and widespread habitat of limited/negligible ecological value. The trees are of the greatest ecological value habitat in the context of the site and will provide the majority of foraging and commuting opportunities for species. It is recommended that mature trees are maintained on site where possible. If these are to be lost, then they should be replaced with new trees at a 2:1 ratio. These trees should be a mixture of native species.

Effects on Protected Species

Bats

5.11 Building 1 is a confirmed bat roost and will be demolished as part of the proposals. Consequently, at least two bat surveys should be undertaken on the building between May and August, with a single bat survey possible in September, in accordance with the Bat Conservation Trust Good Practice Guidelines (2016). The results of these surveys will allow for categorisation of the bat roost and inform an application for a European protected species mitigation licence.

5.12 Building 9 was considered to have 'low' potential to support roosting bats, due to the presence of a small number of external features. Consequently, a single bat survey should be undertaken on the building between May and August in accordance with the Bat Conservation Trust Good Practice Guidelines (2016).

5.13 No assessment has been made of Buildings 13 and 14 as the redline was expanded to include these buildings after the survey. However, these buildings are to be retained, and on this basis no further survey of them is required in relation to bats.

5.14 Any proposed lighting scheme as part of the development should consider bats in the surrounding area as well as the site. All bat species are nocturnal, resting in dark conditions during the day and emerging at night to feed. Bats are known to be affected by light levels, which can affect both their roosting and foraging behaviour. Recommendations include:

- Installing lighting only if there is a significant need;
- Using sodium lamps instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics;
- Directing lighting to where it is needed and avoiding light spillage;
- Using baffled lighting where light is directed towards the ground and
- Avoid putting lighting near trees or hedgerows and angling light away from these linear features which are used by commuting and foraging bats.

Birds

5.15 It is recommended that vegetation removal and particularly the removal of the logpile on site is undertaken outside of the breeding bird season (March-September inclusive) or immediately after a nesting bird check by a suitably qualified ecologist. If active

nests are identified, works in the vicinity of the nest must cease until the birds have fledged the nest.

Hedgehogs

5.16 As a dead hedgehog was found on site, it is recommended that the logpile, which may be used by sheltering hedgehogs, is dismantled by hand. Best practice construction measures should also be undertaken to avoid impacting hedgehogs and other mammals. The guidelines are as follows:

- Any trenches or excavations on site should be either covered over at night or a plank of wood placed in so as to allow any mammals to escape if they were to accidentally fall in.
- Any open pipes or conduits laid should be blocked off each night to prevent any small mammals from entering them.
- Disturbances, such as loud noises, vibrations and flood lighting in association with night working should be minimised.

Ecological Enhancements

5.17 Several enhancements can be made to the final development to further opportunities for wildlife.

5.18 Bird boxes can be hung on mature trees within the site or integrated into the building, to increase the number of breeding opportunities (Figure 11). Bird boxes hung on trees should be woodcrete (or similar) as they provide better thermal properties, are longer lasting and more durable than wooden boxes. The box should be positioned on a north or east facing aspect and at least 2m above the ground if possible.

Figure 11: Vivara Pro Seville 32mm WoodStone Nest Box and Habibat Small Bird Nest Box

5.19 To enhance the local bat population and provide additional roosting opportunities within the site, bat boxes can be hung on mature trees within the site. Installation of bat boxes will also enhance the number of roosting opportunities for bats in the local area. Boxes will be hung on mature trees and have clear flight paths. Boxes to be provided within the scheme include CJ Wildlife Large Multi Chamber WoodStone Bat Box (suitable for common pipistrelle and brown long-eared bats) and Vivara Pro Low Profile WoodStone Bat Boxes (boxes shown in Figure 12 below).

Figure 12: CJ Wildlife Multi Chamber left, Vivara Pro Low Profile right

5.20 To support the invertebrates and bees attracted to the site by the surrounding vegetation and new planting, Bee Bricks (Figure 13) can be integrated into the proposed building or left around the site. Bee Bricks need to be placed in a warm sunny spot (south-facing) at a minimum height of 1m, with no vegetation obstructing the holes. No cleaning or management of the Bee Bricks is required.

Figure 13: Bee Bricks to be incorporated into the development.

5.21 Hedgehogs have suffered a substantial decline in recent decades for a variety of reasons, one of which is a decline in suitable habitat and connectivity around developments.

5.22 Fence lines within the site, are to be made 'hedgehog friendly' allowing the gardens to be permeable to hedgehogs creating access through the connected gardens, see Figure 14 below. The hedgehog friendly network will be created within the site allowing species to move between the open parkland habitats and the back gardens.

Figure 14: Hedgehog friendly garden fences

5.23 All adjoining garden fences on site should have a 13cm x 13cm hole at the bottom to provide a passageway for hedgehogs to travel between gardens and other habitats on site. Fences and walls are one of the main reasons why hedgehog numbers are declining as the amount of land available to them is reduced. To ensure that new residents do not block these 'highways', small signs can be erected above the hole, such as those produced by the People's Trust for Endangered Species (PTES), informing them of their purpose (Figure 15).

Figure 15: Hedgehog highway sign for fences (hedgehogstreet.org)

6.0 IMPACT ASSESSMENT

6.1 This section of the report forms an EcIA (Ecological Impact Assessment) and is designed to quantify and evaluate the potential impacts of the development on habitats and species present on site or within the local area.

6.2 The approach to this assessment accords with guidance presented within the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM 2018). In essence, an EcIA assesses the activities associated with a proposed scheme that are likely to generate changes within identified zone of influences, on identified ecological features and receptors. The proposals are subsequently reviewed and mitigation and compensation measures are outlined which help to reduce negative impacts.

6.3 Table 3 below summarises the impacts and required mitigation for each receptor as previously detailed in the discussion.

Table 3: Assessment of effects from the proposal after mitigation and compensation.

Feature	Scale of Importance	Mitigation/Compensation Required	Residual Effect
International designated sites (Thames Basin Heath SPA)	International	Contributions to SANGS and SAMMS.	Not significant
Designated Sites	National	None required – no related habitats lost	Not significant
Priority Habitats	Local	None required – small-scale development with limited impacts.	Not significant
On-Site Habitats	Site	The proposed development will result in loss of some amenity grassland which is of low ecological value.	Not significant
Bat (roosting)	Not determined	Building 1 is a confirmed roost. Building 9 was considered to have 'low' potential. Further bat surveys have been recommended to inform a license application. Mitigation/Enhancement in the form of the installation of bat boxes and habitat creation.	Not determined
Bats (commuting and foraging)	Local	Mitigation/Enhancement in the form of native planting and habitat enhancements.	Not significant
Nesting Birds	Site	Mitigating direct harm to nests by removal of any suitable nesting habitat outside of nesting bird season or after a check by a suitably qualified ecologist.	Not significant

		Mitigation/Enhancement in the form of the installation of bird boxes.	
Hedgehogs	Local	Mitigating direct harm to individuals by removal of any suitable habitat sensitively. Mitigation/Enhancement in the form of hedgehog highways included within the design	Not significant

7.0 CONCLUSIONS

7.1 Due to the proximity of the site to Thames Basin Heaths SPA and the nature of the development, impact risk zones indicate that the development is likely to have an impact on the SPA. The proposed works will result in a gain in residential units and therefore a tariff payment to secure SANG mitigation from the Council's strategic SANGs will be required. In addition, a financial contribution towards the SAMM project will be required. On this basis, impacts to the SPA would be nugatory above the baseline

7.2 The site does not lie within or adjacent to any other designated sites and the Impact Risk Zones do not indicate the proposed development will have any likely impact. Due to the scale of the development and the distances involved, it is considered the proposed development will have no direct or indirect impact on any other designated sites.

7.3 Building 1 has been classified as being a 'confirmed roost' due to previous bat survey results. As such, three separate emergence/re-entry surveys are required between May and the end of September, with at least two between May and August, to determine the type and number of bats roosting and the access points into the roosts.

7.4 Building 9 was identified as having 'low' potential to support roosting bats. As such, a single emergence survey is required, between May and the end of September to determine the type and number of bats roosting and the access points into the roosts.

7.5 Birds may use the brash pile and trees for nesting. Any works to these features should therefore be undertaken outside of bird nesting season (March – September inclusive) or after a nesting bird check by a qualified ecologist.

7.6 The site does not support any suitable habitat for dormice, great crested newts, reptiles, water voles and otters. Therefore, further surveys for these species groups are not considered necessary.

7.7 Recommendations for enhancements have been made within this report, aimed at improving the site's ecological value.

8.0 REFERENCES

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Internet resources:

Google Maps: www.google.co.uk/maps

Magic Interactive Map: www.magic.gov.uk

Appendix 1: Habitat Map

Appendix 2: Site Photographs

Photograph 1: Brash Pile on site	
Photograph 2: Building 1	
Photograph 3: Area of bare earth and vegetated grassland	

Photograph 4: Building 2	
Photograph 5: Building 4	
Photograph 6: Building 3	

Photograph 7: Building 7	
Photograph 8: Buildings 5 & 6	
Photograph 9: Building 12	

Photograph 10: Building 10	
Photograph 11: Building 11	

Appendix 3: Species List

DAFOR Scale	Meaning	Percentage Cover of habitat
D	Dominant	51-100%
A	Abundant	31-50%
F	Frequent	16-30%
O	Occasional	6-15%
R	Rare	1-5%
LD	Locally Dominant	51-100% of a specific area

Common name	Latin name	DAFOR score
Vegetated Garden		
Perennial Rye-grass	*Lolium perenne*	D
False Oat-grass	*Arrhenatherum elatius*	A
Red Fescue	*Festuca rubra*	A
Bramble	*Rubus sp.*	F
Buddleja	*Buddleja davidii*	F
Common Ivy	*Hedera helix*	F
Common Nettle	*Urtica dioica*	F
Rose	*Rosa sp.*	F
Thistle sp.	*Cirsium sp.*	F
Blackthorn	*Prunus spinosa*	O
Bluebell	*Hyacinthoides non-scripta*	O
Common Sedge	*Carex nigra*	O
Creeping Buttercup	*Ranunculus repens*	O
Daffodil	*Narcissus pseudonarcissus subsp. pseudonarcissus*	O
Green Alkanet	*Pentaglottis sempervirens*	O
Holly	*Ilex aquifolium*	O
Pedunculate Oak	*Quercus robur*	O
Snowdrop	*Galanthus nivalis*	O
Spindle	*Euonymus europaeus*	O
Wood Dock	*Rumex sanguineus*	O
Douglas Fir	*Pseudotsuga menziesii*	R
Early Crocus	*Crocus tommasinianus*	R
False-acacia	*Robinia pseudoacacia*	R
Fig	*Ficus carica*	R
Garden Privet	*Ligustrum ovalifolium*	R
Goat Willow	*Salix caprea*	R
Hart's-tongue	*Phyllitis scolopendrium*	R
Hardstanding		
Broad-leaved Dock	*Rumex obtusifolius*	O
Buddleja	*Buddleja davidii*	O
Cleavers	*Galium aparine*	O

Common Bent	*Agrostis capillaris*	O
Common Chickweed	*Stellaria media*	O
Common Ragwort	*Senecio jacobaea*	O
Dandelion	*Taraxacum officinalis*	O
False Oat-Grass	*Arrhenatherum elatius*	O
Great Mullein	*Verbascum thapsus*	R
Green Alkanet	*Pentaglottis sempervirens*	O
Herb-Robert	*Geranium robertianum*	R
Wood Avens	*Geum urbanum*	R
Yorkshire-fog	*Holcus lanatus*	R

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