

Hookstead, High Halden, Kent

Preliminary Ecological Appraisal

24th June 2019 / Ref No 2019/05/10

Client: Blackmore SPV5 Ltd



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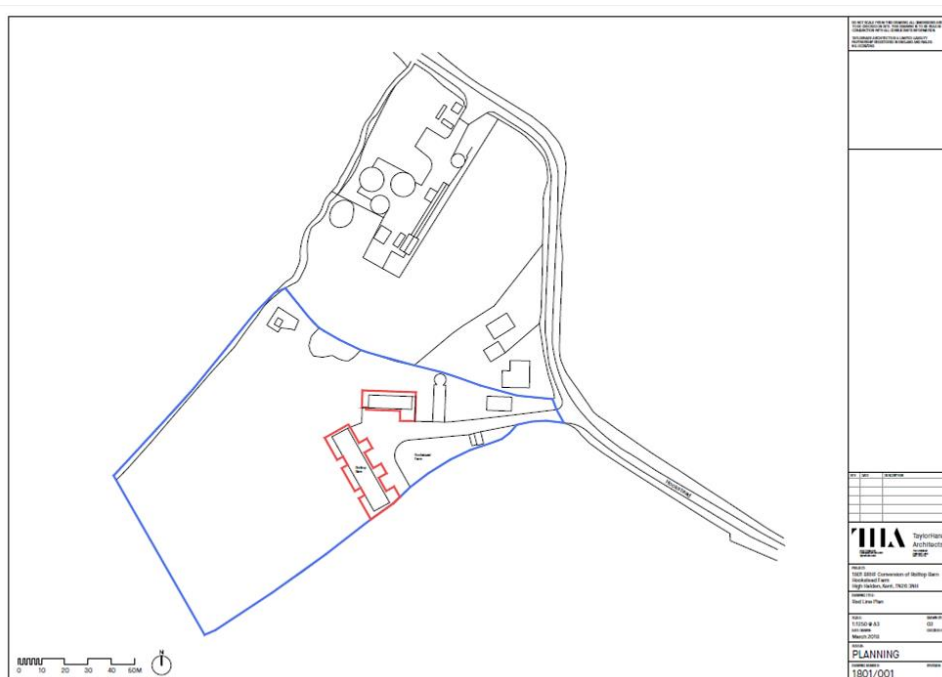
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1 Introduction

1.1 Background to the Scheme

KB Ecology Ltd has been commissioned to undertake a baseline ecological survey and a preliminary ecological appraisal with regards to a proposed development at Hookstead, High Halden TN26 3NH Kent, in support of a planning application to replace the existing buildings B1 and B2 with a number of bespoke residential dwellings.

The extent of site to be surveyed is shown on the map below, as sent by the client:



1.2 Survey Location/Area

The site is located at approximately TQ 889 375. The location of the site is shown on Figure 1 and Figure 2.

1.3 Survey Objectives

The purpose of this survey is to provide a scoping assessment and to assist in demonstrating compliance with wildlife legislation and planning policy objectives.

The key objectives are as follows:

- Identify all relevant statutory and non-statutory designated sites and features of ecological significance within the site and its surroundings.
- Assess the potential for the presence of protected species and species of principal conservation importance, important habitats or other biodiversity features within the site and its surroundings.

- Provide recommendations for further surveys where assessed as necessary and suggest potential enhancements.
- Present the likely significance of ecological impacts on the proposed development.
- Provide an early indication of potential ecological mitigation and compensation requirements necessary as part of any development proposals.

A summary of wildlife legislation and policy has been included in Appendix A.

1.4 Limitations

This report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct and the opinions expressed are true and professional bona fide opinions. It records the potential for flora and fauna evident on the days of the site visits. It does not record any flora or fauna that may appear at other times of the year and, as such, were not evident at the time of visit.

The findings of this report represent the professional opinion of a qualified ecologist and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document.

Figure 1



Legend

- | | |
|-------------------------------------|---------------------------------|
| Limestone Pavement Orders (England) | National Parks (England) |
| Local Nature Reserves (England) | Ramsar Sites (England) |
| Moorland Line (England) | Proposed Ramsar Sites (England) |
| National Nature Reserves (England) | Ramsar Sites (Scotland) |
| National Nature Reserves (Scotland) | Ramsar Sites (Wales) |
| National Nature Reserves (Wales) | |

0 0.6 1.2
km

Projection = OSGB36

xmin = 585600

ymin = 134700

xmax = 592300

ymax = 139400

Map produced by MAGiC on 24 June, 2019.
Copyright resides with the data suppliers and the map must not be reproduced without their permission. Some information in MAGiC is a snapshot of the information that is being maintained or continually updated by the originating organisation. Please refer to the metadata for details as information may be illustrative or representative rather than definitive at this stage.

Figure 2 - K-LIS

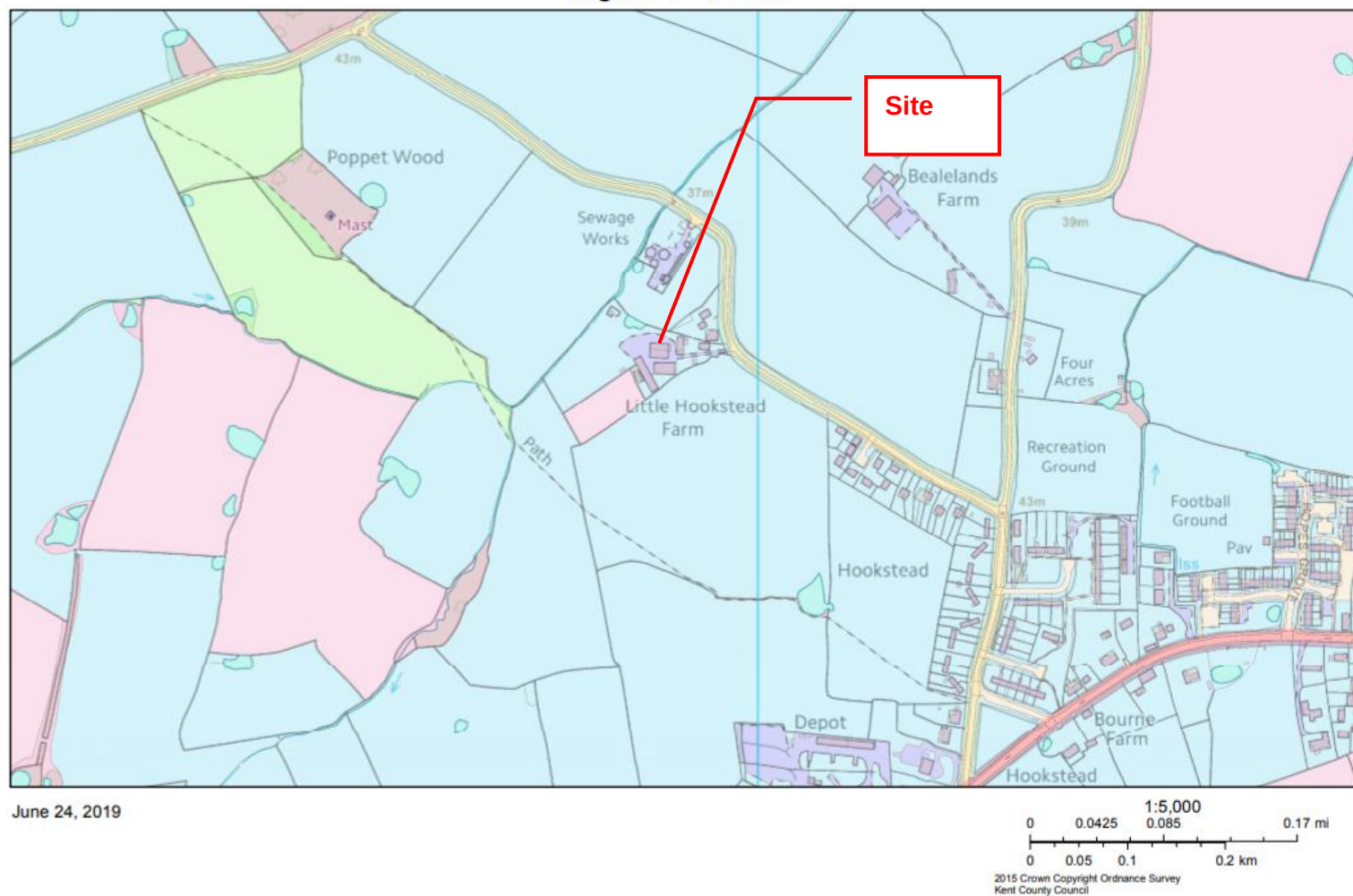
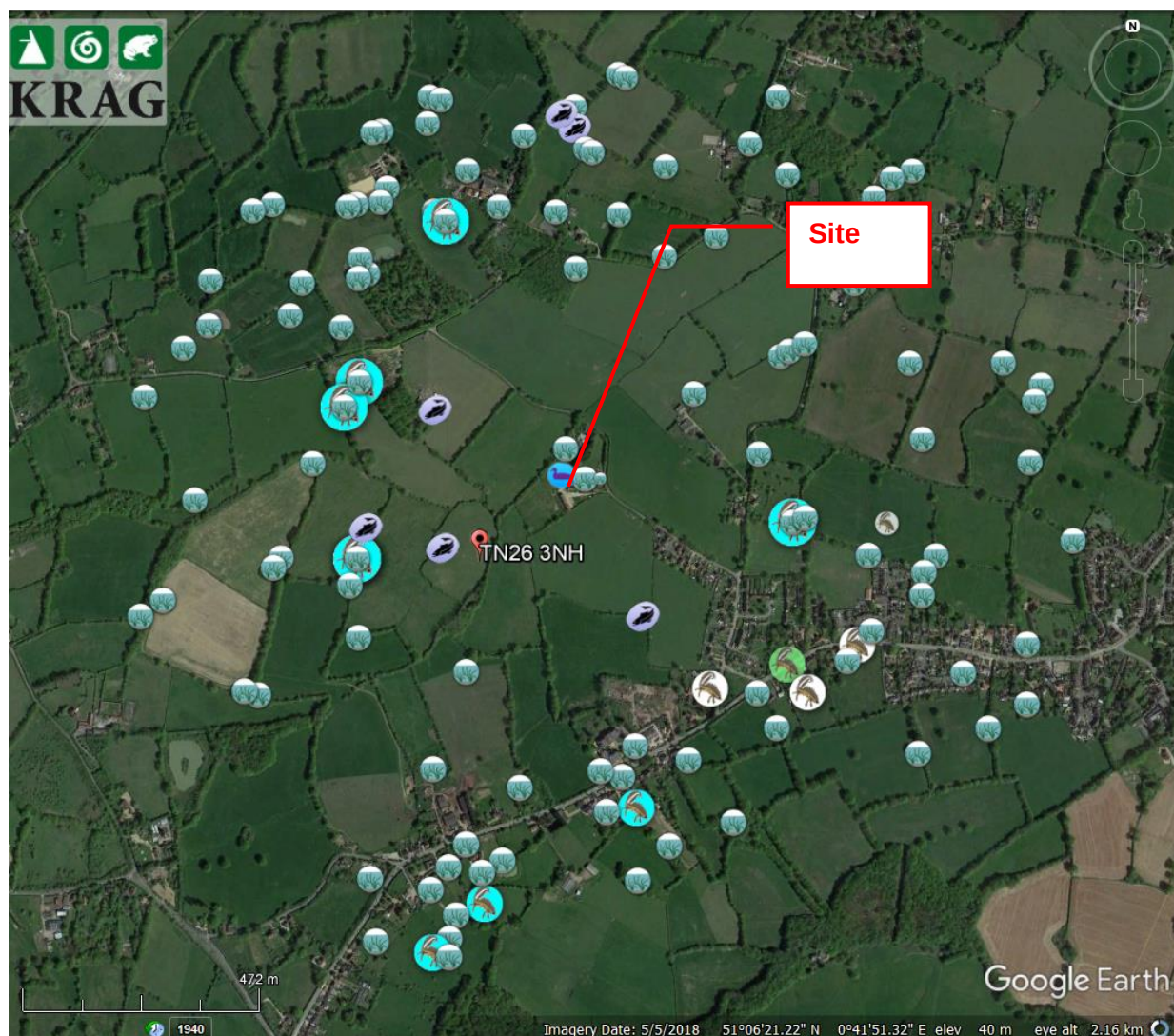


Figure 3: indicates location of ponds and location of known GCN populations from Krag data search



2 Methodology

2.1 Desk Study

Internet-based resources were consulted to identify designated nature conservation sites within 1km of the site and habitats of potentially high ecological importance and sensitivity within 500m of the site (e.g. ancient woodlands, ponds).

A data search was carried out with the Kent Reptile and Amphibian Group Krag^{1, 2}.

2.2 Scoping Survey

The site and its immediate surroundings were considered in terms of habitats, protected species and species of principal conservation importance during a walkover survey undertaken on 11th June 2019 by Katia Bresso CEnv MCIEEM, a qualified professional consultant ecologist with over 15 years of experience³, licensed bat surveyor (Class Licence CL19, Level 3, Registration Number: 2016-27133-CLS-CLS⁴) and Registered Consultant of the Bat Mitigation Class Licence (BMCL) (formerly Bat Low Impact Class Licence) WML-CL21 with Natural England (Registered Consultant Reference Number RC056, since May 2015), licensed dormouse surveyor (Class Survey Licences Registration Number 2016-22060-CLS-CLS) and licensed great crested newt surveyor (Class Licence CL08, Level 1, Registration Number: 2015-16268-CLS-CLS and licence 2017-30955-SCI-SCI for box traps). Evidence of the use of the site by species was recorded (i.e. field signs).

The habitat survey was undertaken in general accordance with Phase 1 Habitat Survey (JNCC 2010), i.e. within the survey area every parcel of land is classified, recorded and mapped in accordance with a list of ninety specified habitat types using standard colour codes to allow rapid visual assessment of the extent and distribution of different habitat types.

The survey and report aim at following the guidance and recommendations in the 'British Standard Biodiversity Code of Practice for Planning and Development (BS 42020: 2013)'.

Particular attention was given to signs of use by bats and barn owls within Building B1 and B2. A visual survey was undertaken looking for evidence of roosting bats and roosting/nesting barn owls, including signs such as live or dead bats/owls, feathers, droppings, pellets, nest debris and eggs, using an endoscope⁵, high powered torch (Cluson CB1 Clubman Standard High Power, 500,000 candle power), night vision scope and binoculars where needed.

¹ Please note that absence of records should not be taken as confirmation that a species is absent from the search area.

² Due to the scale of the project, it was judged disproportionate to undertake a costly data search with the local Biological Record Centre as the data would be unlikely to be relevant to this site.

³ Katia Bresso is a Suitably Qualified Ecologist with regards to Code for Sustainable Homes the local Biological Record Centre as the data would be unlikely to be relevant to this site.

³ Katia Bresso is a Suitably Qualified Ecologist with regards to Code for Sustainable Homes assessment and BREEAM

⁴ This licence allows the holder to disturb or capture bats using: torches, endoscopes, hand nets, static hand-held nets, mist nets for development surveys (can be used for a maximum of 3 days at any one site), acoustic lures and to disturb but not handle hibernating bats.

⁵ Teslong 5.5mm Inspection NTS200 Digital Endoscope with 3.5 Inch full color LCD Screen

All trees were also checked for potential for roosting bats.

2.3 Habitat Suitability Index Calculation

The great crested newt Habitat Suitability Index (HSI) is a quantitative measure of habitat quality, which was calculated for a number of ponds. The HSI is a number between 0 and 1, derived from an assessment of ten habitat variables known to influence the presence of newts. An HSI of 1 is optimal habitat (high probability of occurrence), while an HSI of 0 is very poor habitat (minimal probability of occurrence). The HSI is calculated on a single pond basis but takes into account surrounding terrestrial habitat and local pond density.

3 Baseline Ecological Conditions

3.1 Designated Nature Conservation Sites

The site is not part of, nor directly adjacent to, any statutory designated sites and none are located within 1km of the site.

One local wildlife site⁶, 'Woods, meadows and ponds, High Halden', is present 450m to the north of the site.

3.2 Habitats

The site is surrounded by pasture with hedgerows. Sewage works are present directly to the north. The Integrated Habitat System (IHS) classification of the Kent Habitat Survey 2012 describes the site as:

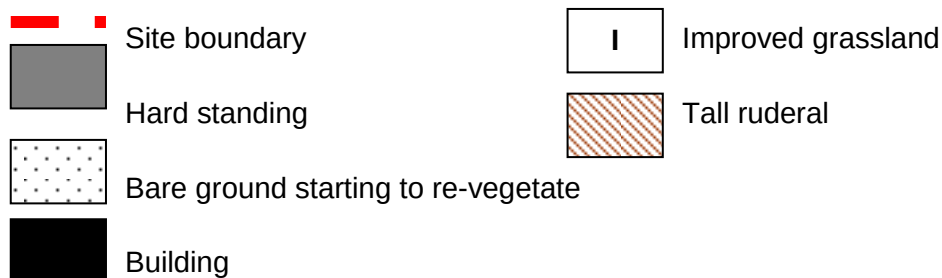
- *Built-up areas,*
- *Improved grassland,*
- *Arable and horticulture.*

Indeed the site consists of a now disused farm yard with agricultural buildings (as well as an oast house, a greenhouse, a small garage and house to the front). Historical aerial photos seem to indicate that the site was still in active use in 2015 and that a number of buildings have been demolished since.

A large expanse of rubble is present between Buildings 1 and 2 and to the back of B1, with horsetail *Equisetum sp* covering most of it. Trees including elder *Sambucus nigra*, field maple *Acer campestre*, hawthorn *Crataegus monogyna*, pedunculate oak *Quercus robur* and poplar *Populus sp* line the north and south boundaries. The ground around the buildings was bare in places with ground flora starting to vegetate the area, including bramble *Rubus fruticosus agg*, bristly ox-tongue *Picris echioides*, cleavers *Galium aparine*, common fleabane *Pulicaria dysenterica*, creeping thistle *Cirsium arvense*, daisy *Bellis perennis*, dandelion *Taraxacum officinale agg.*, dock *Rumex sp.*, red clover *Trifolium pratense*, ribwort plantain *Plantago lanceolata* and mugwort *Artemisia vulgaris*. A large stand of common nettles *Urtica dioica* was present behind B2.

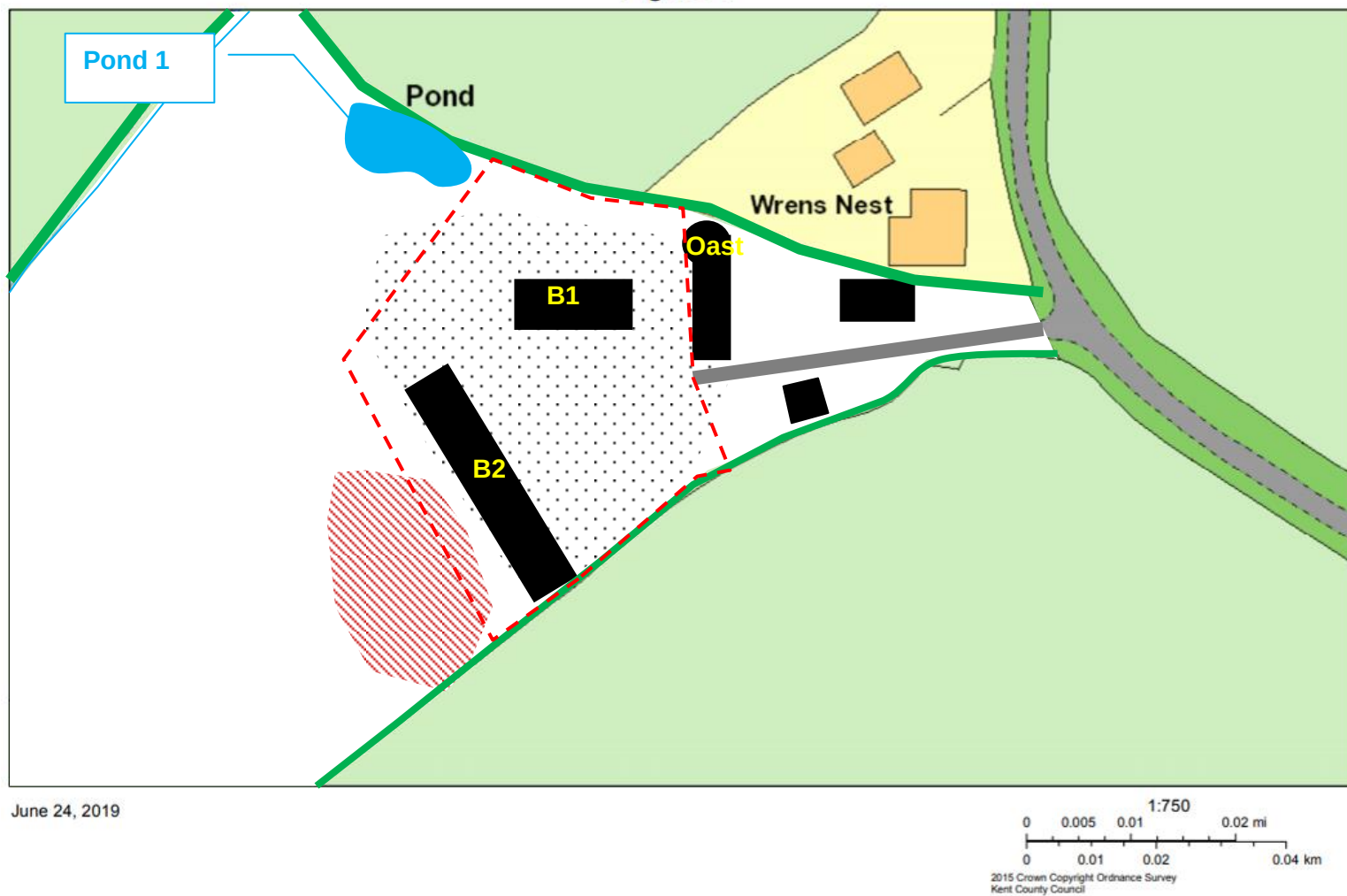
Plates are present in Appendix B. Figure 4 below shows the location of the habitats.

Legend of Phase 1 habitat survey map hereafter:



⁶ In Kent, there are over 460 Local Wildlife Sites, covering a total area of over 27,500 hectares, (roughly 7% of the county). They range from a 0.13 hectares churchyard important for its orchids, to grazing marsh sites of over 1,000 hectares.

Figure 4



June 24, 2019



3.3 Amphibians

The data search carried out with Krag (Enquiry No: CES/19/106) revealed that the closest recorded Great Crested Newt *Triturus cristatus* site is located at Four Acres, High Halden, 0.4 km to the E (record id: 49940).

Great crested newts favour areas of high pond density and occupancy levels can exceed 40% of ponds when conditions are favourable. Krag's database risk assessment indicates that the likelihood of presence of great crested newts *in the overall area* is 'High'⁷, with 115 ponds present within 1km.

Like nearly all amphibians, the great crested newt is dependent on water-bodies for breeding but usually spends most of its life on land.

The 'Great Crested Newt Mitigation Guidelines' (English Nature 2001) state the following: *'Great crested newts have been found to move over considerable distances (up to 1.3km from breeding sites). However, the vast majority of newts will inhabit an area much closer to the pond, and the exact distribution and migration patterns of newts on land depends on a variety of factors. The quality of terrestrial habitat near to breeding ponds is important, as are the lack of barriers to dispersal (such as fast-flowing rivers, or very busy roads). The distribution of ponds and hibernation opportunities may also influence movements. [...] Several studies have been conducted which reveal a great deal of variation, but great crested newts commonly move between ponds that are within around 250m of each other.'*

⁷ Likelihood of Presence Scores are described using the following categories:
Unlikely<Possible<Likely<High
Preliminary Ecological Appraisal
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KB Ecology Ltd- June 2019

Two ponds are shown to be present within 100m of the site on the OS map (Figure 5) but the Krag database indicates a further two garden ponds within the grounds of the adjacent property (Wren's nest): one that is 6m² (TQ 88959 37625) and another that is 55m² (TQ 88927 37621).

Pond 1		
	Data	Field score
SI1 - Location	Optimal	1
SI2 - Pond Area	129m ²	0.2
SI3 - Pond Drying	Dries annually	0.1
SI4 - Water Quality	Poor	0.33
SI5 - Shade	80%	0.6
SI6 - Fowl	Minor	0.67
SI7 - Fish	Absent	1
SI8 - Ponds	115 ponds within 1km of survey pond	1
SI9 - Terrestrial Habitat	Moderate	0.67
SI10 - Macrophytes	0% of pond surface	0.3
HSI:	0.47	

The HSI calculation means that suitability of Pond 1 for great crested newts is poor.

The Krag datasearch also indicates the following:

- Pond 1: GCN HSI Score: 0.4 [2012; Calumma Ecological Services]
- Pond 2: GCN HSI Score: 0.58 [2012; Calumma Ecological Services]; Available Species Records: Small Newt Sp., Smooth Newt

Aerial photos seem to indicate that pond 2 is currently entirely shaded by trees.

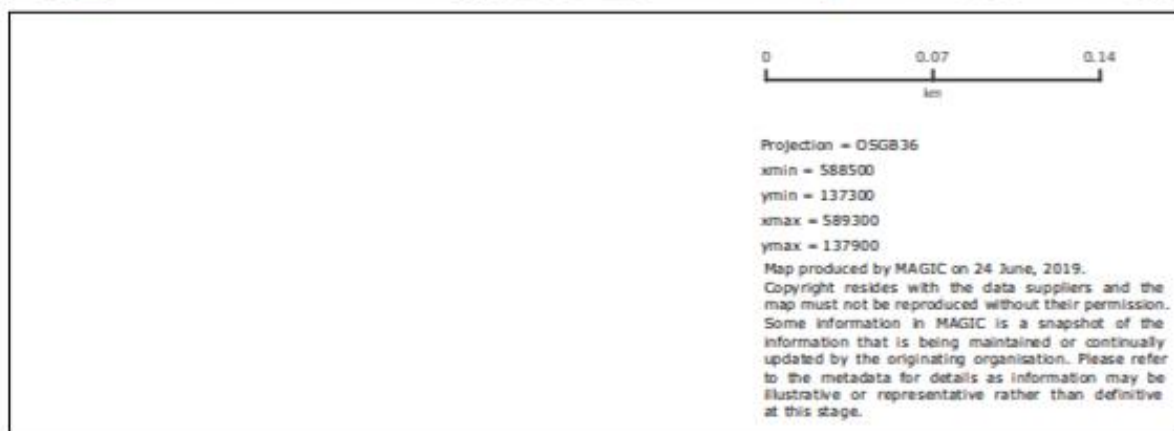
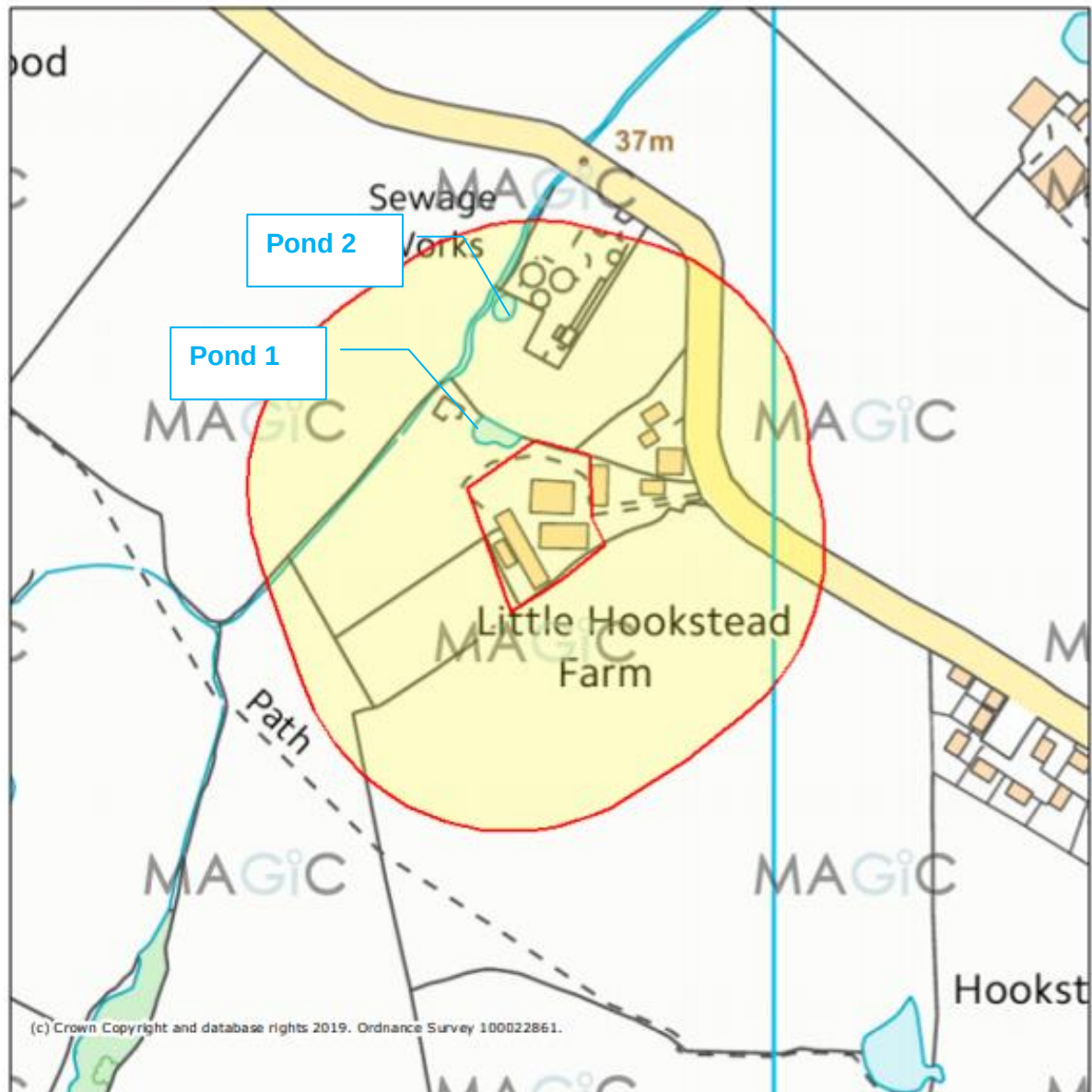
It is therefore unlikely that great crested newts are present in ponds 1 and 2 and the other two garden ponds are also unlikely to hold breeding great crested newts due to their small size.

Although the site offers good potential terrestrial habitat for amphibians, due to the lack of suitable water bodies near-by, it is judged unlikely that great crested newts be present on the proposed development site itself.

Common amphibian species are afforded limited legal protection under the Wildlife & Countryside Act 1981 (as amended). The great crested newt is afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 and are therefore a European Protected Species (EPS). Great crested newts and common toads are also listed as species of principal conservation importance (See Appendix A).

For more information, guidance from Natural England is available at <https://www.gov.uk/great-crested-newts-protection-surveys-and-licences>

Figure 5 - 100m radius



3.4 Reptiles

The Krag datasearch revealed that the closest recorded reptile is Grass Snake, located at [Private Residence], approximately 1.17 km to the NE (record id: 26484). The likelihood of reptiles to be present *in the overall area* is judged as per table below:

Reptiles		
	Likelihood of Presence	
	Score	Dist (km)
Viviparous Lizard:	Possible	3.03
Slow-worm:	Likely	1.17
Sand Lizard:	unlikely	51.50
Grass Snake:	HIGH	1.17
Adder:	unlikely	7.87
Smooth Snake:	n/a	n/a

Reptile survey effort in local area is considered to be relatively low. Results should be interpreted with caution.

The areas of unmanaged vegetation provide suitable habitat for reptiles, namely slow worms *Anguis fragilis*, common lizards *Zootoca* and grass snakes *Natrix natrix*.

Common reptiles are afforded limited legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). They are also listed as species of principal conservation importance (See Appendix A).

For more information, guidance from Natural England is available at <https://www.gov.uk/reptiles-protection-surveys-and-licences>

3.5 Birds

It is considered that the site has high potential to support breeding birds within the trees and several bird nests were present inside each building.

Signs of roosting barn owl *Tyto alba* were found during the survey: black/grey pellets and white/buff feathers were present inside building B1 and a single barn owl was seen flying onto a distant tree along the west boundary (supposedly having been disturbed away from the building by the surveyor). No nesting activity was found and nesting is not expected to take place, only roosting (due to lack of suitable roosting locations in the buildings)

All species of bird whilst actively nesting are afforded legal protection under the Wildlife & Countryside Act 1981 (as amended) and special penalties are available for offences related to birds listed on Schedule 1. Some species are also listed as species of principal conservation importance, including sky lark, common cuckoo, house sparrow, tree sparrow and song thrush (See Appendix A).

For more information, guidance from Natural England is available at <https://www.gov.uk/wild-birds-protection-surveys-and-licences>

3.6 Hazel Dormouse

It is considered that the site has negligible potential to support the hazel dormouse *Muscardinus avellanarius* due to lack of connection to suitable woodlands.

3.7 Badger

No setts or signs of badgers *Meles meles* were identified during the survey.

3.8 Bats

No bats nor signs of bats were found during the internal/external inspection of the buildings B1 and B2.

Building B1 is a brick and timber building with single skin timber weatherboards and a Kent peg tiled roof (no felt or timber sarking). Some solar panels are present on the south elevation. Internally, there are many timber mortise and tenon joints offering suitable roosting opportunities for bats. But as no droppings were found, the suitability of the building for roosting bats is judged as being moderate (rather than high).

Building B2 is a block and tin structure with single skin tin walls; it provides negligible suitability for roosting bats.

None of the trees present on site offered potential for roosting bats. But the surrounding area is likely to be used by foraging and commuting bats.

All species of bat are afforded full legal protection under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). They are also listed under Schedule 2 of the Conservation of Habitats and Species Regulations 2017 and are therefore a “European Protected Species” (EPS). Some species of bats (noctule, soprano pipistrelle, brown long-eared bat, barbastelle) are also listed as species of principal conservation importance.

Bats rarely use the same roosting place all year round as they need different conditions for breeding and hibernating. But bats are creatures of habit and tend to return to the same sites at the same time year after year. For this reason, roosts are legally protected even if bats don't seem to be living there at certain times of year.

The legislation makes it a criminal offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat;
- Intentionally or recklessly obstruct access to a bat roost.

For more information, guidance from Natural England is available at <https://www.gov.uk/bats-protection-surveys-and-licences>

3.9 Other Species

It is considered that the surroundings have potential to support hedgehogs (*Erinaceus europaeus*), which are a Species of Principal Importance under Section 41 of the NERC Act (2008 updated list).

Common mammal species such as rabbit (*Oryctolagus cuniculus*), mole (*Talpa europea*), field vole (*Microtus agrestis*) and fox (*Vulpes vulpes*) are likely to be present on site.

All mammals are afforded protection against unnecessary suffering by the Wild Mammals (Protection) Act 1996 (see Appendix A).

4 Ecological constraints and opportunities, recommendations for mitigation, compensation and further survey

The details of the proposed development were not known at the time of writing this report.

Should the scope of the proposed works be amended following the completion of this scoping survey, or be deferred for an extended period of time, there may be a requirement to update this scoping report and its recommendations.

4.1 Designated Nature Conservation Sites

A site check report was generated for the site using the Impact Risk Zones on the Magic website⁸:

24/06/2019

Site Check Report generated on Mon Jun 24 2019
You selected the location: Centroid Grid Ref: TQ88893758
The following features have been found in your search area:

SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)

1. DOES PLANNING PROPOSAL FALL INTO ONE OR MORE OF 2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT THE CATEGORIES BELOW? NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:

All Planning Applications

Infrastructure

Wind & Solar Energy

Minerals, Oil & Gas

Rural Non Residential

Residential

Rural Residential

Air Pollution

Combustion

Waste

Composting

Discharges

Airports, helipads and other aviation proposals.

Any discharge of water or liquid waste of more than 20m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location).

Water Supply

Notes

GUIDANCE - How to use the Impact Risk Zones

[/Metadata_for_magic/SSSI IRZ User Guidance MAGIC.pdf](#)

The type of development proposed is not listed as being a category for which the LPA should consult Natural England. The proposal is not judged detrimental to any protected sites.

4.2 Habitats

Trees to be retained should be protected during any construction work and guidance is given in the 'BS 5837:2012 Trees in relation to design, demolition and construction. Recommendations' document. This standard requires a tree protection plan to be developed which involves erecting physical barriers to prevent damage to existing trees, with an

⁸ The Impact Risk Zones (IRZs) dataset is a GIS tool which maps zones around each SSSI according to the particular sensitivities of the features for which it is notified and specifies the types of development that have the potential to have adverse impacts.

Natural England uses the IRZs to make an initial assessment of the likely risk of impacts on SSSIs and to quickly determine which consultations are unlikely to pose risks and which require more detailed consideration. Publishing the IRZs will allow LPAs, developers and other partners to make use of this key evidence tool.

<http://www.naturalengland.org.uk/ourwork/planningdevelopment/impactriskzonesgistoolfeature.aspx>

exclusion area around the trees. It also looks at defining a root protection area and requires consideration when compulsory work is carried out within the root protection area.

4.3 Amphibians

No further work is recommended with regards to great crested newts.

4.4 Reptiles

The details of the proposed works are unknown and thus it is not clear which areas of ground will be turned to garden areas. Most of the land around the existing building is made ground which is sparsely vegetated. The area of rubble and horsetail offers hibernation potential for reptiles but restricted potential during the active season currently.

The following precautionary mitigation strategy is thus proposed to minimise any potential impacts: it is recommended to prepare the development site using habitat manipulation as below:

- Ground works in the area of rubble should be done outside of the hibernation season (taken to be November to March included);
- The works area should be mowed using hand held machinery only⁹ (to 15cm height minimum), during sunny conditions, during the reptile active season (April to October), in order to force the animals out of the area;
- A second cut should be given to ground level, 2 days following the first cut, during sunny conditions;
- After 2 days, a destructive search (consisting of carefully scraping the top layer of soil with a digger with a toothed bucket under supervision by an ecologist to retrieve any animal present) should be carried out. Any animal found should be relocated away from the works area.

4.5 Birds

Although a breeding bird survey is not deemed to be necessary, on the basis that the site contains suitable habitat for breeding birds, consideration must be given to the timing of the clearance works, if any is to take place.

The effect on birds can be avoided by undertaking any vegetation clearance and by demolishing the buildings outside of the nesting season (which extends from March – August inclusive¹⁰) or only after a survey has confirmed the absence of nesting birds¹¹. New hedgerow/trees/scrub planted and bird nesting boxes erected as part of the proposed development can replace the habitat lost.

A barn owl roosting/nesting box¹² should be provided for Barn Owls within 200 metres of the development at least 30 days before any part of the site used by Barn Owls is altered in any way.

⁹ strimmer, brush-cutter

¹⁰ It should be noted however that certain species are known to breed throughout the year (e.g. collard dove) and remain protected.

¹¹ Inspection by a qualified ecologist must first be completed a maximum of 48hrs before clearance works commence. If during the inspection a nest considered to be in use is discovered, works must be delayed until the young have fledged.

¹² More information can be found here: <http://www.barnowltrust.org.uk/infopage.html?Id=42>

4.6 Hazel Dormouse

No further work is recommended with regards to dormice.

4.7 Badger

No further work is recommended with regards to badgers.

4.8 Bats

The Bat Conservation Trust's guidelines provide a table stating the 'minimum number of presence/absence survey visits required to provide confidence in negative preliminary roost assessment from buildings, built structures and trees in summer.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of surveys between May and August ^b	May to September ^a with at least two of surveys between May and August ^b

It is therefore recommended to carry out two emergence or dawn surveys of Building 1 between May and August. Two surveyors will be necessary to cover all sides of the building with potential access points. The surveys should be carried out at 3 weeks interval as a minimum in order to sample a long enough period of bats' active season¹³.

Besides, as lighting can be detrimental to roosting, foraging and commuting bats¹⁴, the recommendations from the Bat Conservation Trust and the Institution of Lighting Professionals, titled 'Guidance Note 8 Bats and Artificial Lighting'¹⁵, should be considered, when designing any lighting scheme for the proposed development.

¹³ General guidance for carrying out bat surveys suggests that they only take place in optimum weather conditions in order to maximise the likelihood of recording bats if they use the site being surveyed. It is usually advised to avoid very heavy rain, strong winds, mists and dusk temperatures below 7oC.

¹⁴ http://www.bats.org.uk/pages/bats_and_lighting.html

and

<http://www.batsandlighting.co.uk/index.html> for more information

¹⁵ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

4.9 Other Species

There is some potential for hedgehogs to be present on site. Therefore any areas where mammals could be sheltering should be hand searched prior to disturbance. Excavations should not be left open for animals to fall into, or planks of wood should be placed to enable any animals which may fall into such a hole to escape.

4.10 Additional Recommendations: Enhancements

Ecological enhancements should where possible be incorporated into the proposed development to contribute towards the objectives of planning legislation below:

In July 2018, the UK Government published the revised National Planning Policy Framework (NPPF) which states that “opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity“ (Para 175).

The design and implementation of habitat enhancements could also be used to contribute towards the ‘Home Quality Mark’ or similar accreditation, should this be a consideration for this site.

Biodiversity enhancements for the site could include the following:

- Provision of 12cm square gaps under any new fencing to allow hedgehogs access onto all garden areas¹⁶.
- Provision of ready-made bird boxes (sparrow terrace timber boxes or house martin nests for instance¹⁷ or mix of open-fronted and hole-nesting boxes and constructed from woodcrete)¹⁸.
- Provision of integrated swift boxes in two-storey buildings¹⁹
- Provision of bat roosting spaces within the new buildings (examples can be found in: Williams, C (2010). *Biodiversity for Low and Zero Carbon Buildings: A Technical Guide for New Build*. RIBA) or installation of ready-made bat boxes (such as Kent Bat Box²⁰, Habibat²¹, EcoSurv Bat Box or Schwegler Bat tube²²)²³.
- Provision of brash/log piles²⁴.

¹⁶ <https://www.hedgehogstreet.org/wp-content/uploads/2019/03/Hedgehogs-and-developers-ZR.pdf>

¹⁷ to benefit these declining urban bird species

¹⁸ In order not to damage trees, free-hanging nesting boxes can be hung from a loop or hook over a branch. This method avoids the use of nails. It is also helpful to avoid predation.

¹⁹ <https://www.rspb.org.uk/globalassets/downloads/documents/conservation--sustainability/help-swifts/swift-bricks.pdf>

²⁰ http://www.teach-organic.org.uk/uploadedfiles/CMS/pdf/bat_box.pdf

²¹ Habibat is a large, solid bat box made of concrete with an internal roost space, which can be incorporated into the fabric of a building <http://www.habibat.co.uk/>

²² http://www.bats.org.uk/publications_download.php/1109/BCT_BatBoxProductList_v4a.pdf
http://www.bats.org.uk/pages/accommodating_bats_in_buildings.html <http://www.habibat.co.uk/about-habibat>

²³ It is highly recommended to install bird boxes near bat boxes to avoid birds from using the bat boxes to the detriment to bats.

²⁴ Brash and log piles will be at least one meter high and two metres in diameter. They will comprise a mix of large and small diameter material. The centre of the pile will be compacted, but the outer part will be un-compacted. They will be located in sunny positions. They will be topped up periodically (for example every five years) with further material.

- Consider using grid mesh system (or Ground Reinforcement Grids) with topsoil and seeding with a wildflower species mix, to car parking areas and new access drives to retain some vegetation as well as drainage, or Gravel turf²⁵.

Priority should be given to species present on the Kent BAP species list, which include great crested newt, common toad, viviparous lizard, slow-worm, grass snake, adder, house sparrow, tree sparrow, hedgehog, noctule, soprano pipistrelle, brown long-eared bat, brown hare, water vole, harvest mouse, dormouse, otter as well as many more species (see <http://www.kentbap.org.uk/habitats-and-species/priority-species/>).

²⁵ http://www.schotterrasen.at/e_index.htm

5 References and Bibliography

- Joint Nature Conservation Committee (2003). *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. JNCC, Peterborough.²⁶
- Bat Conservation Trust (2012). *Bat Surveys - Good Practice Guidelines – 2nd Edition*. Bat Conservation Trust, London.
- Collins, J. (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. Bat Conservation Trust, London.
- English Heritage, National Trust and Natural England (2009). *Bats in traditional buildings*
- English Nature (2004). *Research Reports Number 576: An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*. English Nature, Peterborough

Websites Visited:

- <http://webapps.kent.gov.uk/KCC.KLIS.Web.Sites.Public/ViewMap.aspx>
- <http://www.magic.gov.uk/magicmap.aspx>
- <http://www.kentbap.org.uk/species/>

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²⁶ http://www.jncc.gov.uk/pdf/pub90_HandbookforPhase1HabitatSurveyA5.pdf

Appendix A – Wildlife Legislation & Policy

The following is a summary of wildlife legislation and planning policy which affords protection to plants and animals and seeks to conserve, enhance and restore biodiversity. This section is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

For further information, please see:

<https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals>

and

<https://www.gov.uk/government/policies/protecting-biodiversity-and-ecosystems-at-home-and-abroad/supporting-pages/species-protection>

Commonly encountered protected species

Many species of plants, invertebrates and animals receive protection under the legislation detailed above. However, of these, the following are the most likely to be affected by development in the southeast:

Species	Legislation
Bats (all species) Dormice Great crested newts Otters Sand lizards and smooth snakes	The Wildlife and Countryside Act 1981 (as amended) & The Conservation of Habitats and Species Regulations 2017. These make it an offence to: • Deliberately or recklessly capture, injure or kill any wild animal of a European protected species • Deliberately or recklessly disturb wild animals of any such species • Damage or destroy their breeding site or resting place • Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead animal, or any part of, or anything derived from these species. Disturbance of animals includes in particular any disturbance which is likely • to impair their ability: - to survive, to breed or reproduce, or to rear or nurture their young, or - in the case of animals of a hibernating or migratory species, to hibernate or migrate; • to affect significantly the local distribution or abundance of the species to which they belong.
Breeding birds	The Wildlife and Countryside Act 1981 (as amended). This makes it

Species	Legislation
(in particular barn owls)	illegal to intentionally kill, injure or take any wild bird and to take, damage or destroy the nest (whilst being built or in use) or eggs.
Adders, grass snakes, common lizards and slow worms	The Wildlife and Countryside Act 1981 (as amended) (intentional killing and injuring only). This makes it illegal to kill or injure these animals.
Water voles	The Wildlife and Countryside Act 1981 (as amended). This makes it illegal to intentionally damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection; it is also an offence to intentionally disturb water voles while they are using these places.
White clawed crayfish	The Wildlife and Countryside Act 1981 (as amended). This makes 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. Advertises that he buys or sells, or intends to buy or sell.
Badgers	The Protection of Badgers Act 1992. This makes it an offence to: - Willfully killing, injures or takes, or attempts to kill, injure or take, a badger. - Cruelly ill-treating a badger, digging for badgers, using badger tongs, using a firearm other than the type specified under the exceptions within the Act. - Interfering with a badger sett by damaging, destroying, obstructing, causing dog a dog to enter a sett, disturbing an occupied sett - either by intent or by negligence. - Selling or offering for sale a live badger, having possession or control of a live badger. - Marking a badger or attaching any ring, tag, or other marking device to a badger.

The Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981 (as amended) implements the Birds Directive (1979) and the Berne Convention (1979) into national legislation. The Wildlife and Countryside Act 1981 (as amended) includes a number of Schedules which are reviewed (usually every five years) on which details of the protected species, and their level of protection, are detailed. A detailed summary of the sections of the Wildlife and Countryside Act, along with the

protection afforded under them can be found within Paragraphs 118-122 of ODPM Circular 06/2005 (Circular06/2005)

Full details of the legislation can be found at www.jncc.gov.uk/page-3614 and details of the species listed on the Schedules can be found at:

- Birds www.jncc.gov.uk/PDF/waca1981_schedule1.pdf
- Animals www.jncc.gov.uk/page-1815
- Plants www.jncc.gov.uk/page-1816

There are no licensing functions within the Wildlife and Countryside Act for development activities which may affect a species protected under The Wildlife and Countryside Act 1981 (as amended) and works need to proceed following good practice and if appropriate rely on the 'incidental result of an otherwise lawful operation defence'. However, with regards to the water vole, where translocation of animals is proposed, Natural England does not feel this could be considered the incidental result of other activities and so would not be covered by the defence in the legislation. If there is no alternative to translocation, Natural England may be able to issue a licence to trap and translocate the water voles for the purpose of conservation.

The Countryside and Rights of Way Act 2000

The Wildlife and Countryside Act 1981 was amended by the Countryside and Rights of Way Act (CRoW Act) in 2000. The CRoW Act strengthened the protection afforded to species listed within the Schedules of the Wildlife and Countryside Act by adding 'reckless' to several of the offences and increased the penalties for wildlife offences.

In addition, Section 74 of the CRoW Act introduced a new duty on Government Ministers and Department to further the conservation of biodiversity for habitats and species of principal importance. This was superseded by Sections 40 and 41 of the Natural Environment and Rural Communities (NERC) Act of 2006. Section 40 provides that every public authority must, in exercising its functions, have regard to the purpose of conserving biodiversity. Details of the lists of habitats and species provided for at Section 41 of the NERC act can be found at www.ukbap-reporting.org.uk/news/details.asp?X=45. The ODPM Circular 06/2005 (Circular06/2005) place a clear responsibility on Local Planning Authorities to further the conservation of habitats and species of principal importance where a planning proposal may adversely affect them.

Full details of the legislation contained within the Countryside and Rights of Way Act can be found at www.opsi.gov.uk/acts/acts2000/ukpga_20000037_en_1.

The Protection of Badgers Act 1992

The legislation affording protection to badgers is primarily concerned with animal welfare and the need to protect badgers from activities such as baiting and deliberate harm. The Protection of Badgers Act 1992 makes it an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett (this includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

As with The Wildlife and Countryside Act 1981 (as amended), there are several defences to prosecution in the legislation and the text should be consulted for details of these. Penalties

for offences include fines up to £5,000, plus up to six months imprisonment for each illegal sett interference, or badger death or injury.

Full Details of the legislation can be found at
www.opsi.gov.uk/ACTS/acts1992/ukpga_19920051_en_1.

Conservation of Habitats and Species Regulations 2017 (SI 2010/490) came into force (the "2010 Regulations").

From 1st April 2010, these are now the principal means by which the Habitats Directive is transposed in England and Wales. This updates and consolidates all the amendments to the Regulations since they were first made in 1994.

The 2010 Regulations implement the European Habitats Directive into national legislation. Details of those species (often referred to as European protected species or EPS) which receive protection under these regulations can be found in Schedule 2 of the 2010 Regulations.

Full details of the legislation can be found at
http://www.opsi.gov.uk/si/si2010/uksi_20100490_en_1

The Regulations state that:

Part 3 - 41.—

(1) A person who:

- (a) deliberately captures, injures or kills any wild animal of a European protected species,
- (b) deliberately disturbs wild animals of any such species,
- (c) deliberately takes or destroys the eggs of such an animal, or
- (d) damages or destroys a breeding site or resting place of such an animal,

is guilty of an offence.

(2) For the purposes of paragraph (1)(b), disturbance of animals includes in particular any disturbance which is likely:

(a) to impair their ability:

- (i) to survive, to breed or reproduce, or to rear or nurture their young, or
- (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate;

Or

(b) to affect significantly the local distribution or abundance of the species to which they belong.

(3) It is an offence for any person:

- (a) to be in possession of, or to control,
- (b) to transport,
- (c) to sell or exchange, or
- (d) to offer for sale or exchange, anything to which this paragraph applies.

(4) Paragraph (3) applies to—

- (a) any live or dead animal or part of an animal—
 - (i) which has been taken from the wild, and

- (ii) which is of a species or subspecies listed in Annex IV(a) to the Habitats Directive; and
- (b) anything derived from such an animal or any part of such an animal.
- (5) Paragraphs (1) and (3) apply regardless of the stage of the life of the animal in question.
- (6) Unless the contrary is shown, in any proceedings for an offence under paragraph (1) the animal in question is presumed to have been a wild animal.
- (7) In any proceedings for an offence under paragraph (3), where it is alleged that an animal or a part of an animal was taken from the wild, it is presumed, unless the contrary is shown, that that animal or part of an animal was taken from the wild.
- (8) A person guilty of an offence under this regulation is liable on summary conviction to imprisonment for a term not exceeding six months or to a fine not exceeding level 5 on the standard scale, or to both.
- (9) Guidance as to the application of the offences in paragraph (1)(b) or (d) in relation to particular species of animals or particular activities may be published by—
- (a) the appropriate authority; or
 - (b) the appropriate nature conservation body, with the approval of the appropriate authority.
- (10) In proceedings for an offence under paragraph (1)(b) or (d), a court must take into account any relevant guidance published under paragraph (9).
- (11) In deciding upon the sentence for a person convicted of an offence under paragraph (1)(d), the court must in particular have regard to whether that person could reasonably have avoided the damage to or destruction of the breeding site or resting place concerned.
-

Licences may be obtained to permit activities that would otherwise be unlawful, but they can only be granted for certain purposes. Those purposes include that of preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment (Regulation 42(10)). It is the imperative reasons of overriding public interest element of this that is relied upon by those seeking to carry out development where those activities affect a European protected species or their places used for shelter or protection. Even where that purpose is met, however a licence may only be granted where:

- There is “no satisfactory alternative”; and
- The action authorised “will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range”

Natural England issues licences for this purposes under Regulation 44(2)(e).

It is not the responsibility of Natural England staff to decide when a licence is required/recommended. This decision is down to the proposer of the operation who should consider whether, on balance and usually with the assistance of an ecological consultant, the operation would be reasonably likely to result in the commission of an offence under these Regulations. This view should be formed in the light of survey information and specialist knowledge. A licence simply permits an action that is otherwise unlawful. A licence should be applied for if, on the basis of survey information and specialist knowledge, it is considered that the proposed activity is reasonably likely to result in an offence (killing, breeding site destruction, etc – see above).

It should be noted that the protection afforded to species under the UK and EU legislation referred to here is in addition to that provided by the planning system and the applicant must ensure that any activity they undertake on the application site (regardless of whether or not planning permission has been obtained) complies with the appropriate wildlife legislation. Failure to do so may result in fines and, potentially, a custodial sentence.

Biodiversity Action Plans

Biodiversity Action Plans (BAPS) set out actions for the conservation and enhancement of biological diversity at various spatial scales. They consist of both Habitat Action Plans (HAPs) and Species Action Plans (SAPs).

The UK BAP was the UK's response to the 1992 Convention on Biological Diversity in Rio de Janeiro. Following a review in 2007 a list of 1149 priority species and 65 priority habitats has been adopted, which are given a statutory basis for planning consideration under Section 40 of the NERC Act 2006.

The UK Post-2010 Biodiversity Framework was published on 17 July 2012. It covers the period from 2011 to 2020, and was developed in response to two main drivers: the Convention on Biological Diversity's (CBD's) Strategic Plan for Biodiversity 2011-2020 and its 5 strategic goals and 20 'Aichi Biodiversity Targets', published in October 2010; and the EU Biodiversity Strategy (EUBS), released in May 2011. <http://jncc.defra.gov.uk/page-6189>

Further information about Kent BAP can be found here: <http://www.kentbap.org.uk/habitats-and-species/priority-species/>

Red Data Books

British Red Data Books (RDB) are an additional method for classifying the rarity of species, and are often seen as a natural progression from Biodiversity Action Plans.

RDB species have no automatic legal protection (unless they are protected under any of the legislation previously mentioned). Instead they provide a means of assessing rarity and highlight areas where resources may be targeted. Various categories of RDB species are recorded, based on the IUCN criteria and the UK national criteria based on presence within certain numbers of 10x10km grid-squares (see <http://www.jncc.gov.uk/page-3425>). As with Biodiversity Action Plans, where possible, steps should be taken to conserve RDB species which are to be affected by development.

Appendix B – Plates



IMG_8223



IMG_8225



IMG_8227



IMG_8240 Building B1



IMG_8241 Building B1



IMG_8242 Building B1



IMG_8243 Building B1



IMG_8244



IMG_8245 Building B1



IMG_8246 Building B2



IMG_8248 Pond 1



IMG_8250



IMG_8251



IMG_8252 Building B2



IMG_8253 Building B2



IMG_8254 Building B2



IMG_8255



IMG_8256



IMG_8257 Building B1