

Middlehouse Nursery, Straight lane, Brookland, Kent

Preliminary Ecological Appraisal

18th October 2022 / Ref No 2022/08/24b

Client: Sussex Surveying Ltd



Prepared by Katia Bresso CEnv MCIEEM
Trading as 'KB Ecology Ltd' (Reg 7595382)
9 Barleyfields,
Weaving, Maidstone
ME145SW Kent
Tel: 07810 412 773
Email: katia.bresso@kbecology.co.uk

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Contents

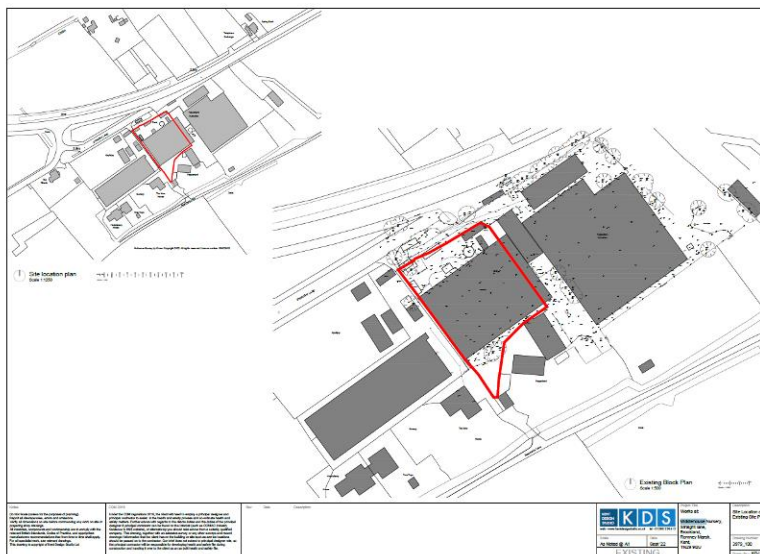
1	Introduction	2
1.1	Background to the Scheme	2
1.2	Survey Location/Area.....	2
1.3	Survey Objectives	2
1.4	Limitations	3
2	Methodology	7
2.1	Desk Study	7
2.2	Scoping Survey.....	7
3	Baseline Ecological Conditions	8
3.1	Designated Nature Conservation Sites	8
3.2	Habitats	9
3.3	Amphibians	11
3.4	Reptiles.....	12
3.5	Birds	13
3.6	Hazel Dormouse	13
3.7	Badger	13
3.8	Bats	13
3.9	Other Species	14
4	Ecological constraints and opportunities, recommendations for mitigation, compensation and further survey	15
4.1	Designated Nature Conservation Sites	15
4.2	Habitats	16
4.3	Amphibians	16
4.4	Reptiles.....	17
4.5	Birds	17
4.6	Hazel Dormouse	17
4.7	Badger	18
4.8	Bats	18
4.9	Other Species	18
4.10	Additional Recommendations: Enhancements	18
5	References and Bibliography	21

1 Introduction

1.1 Background to the Scheme

KB Ecology Ltd was commissioned to undertake a baseline ecological survey and a preliminary ecological appraisal with regards to a proposed development at Middlehouse Nursery, Straight lane, Brookland Kent TN29 9QU, in support of a planning application for the erection of a number of 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 993 260. 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:

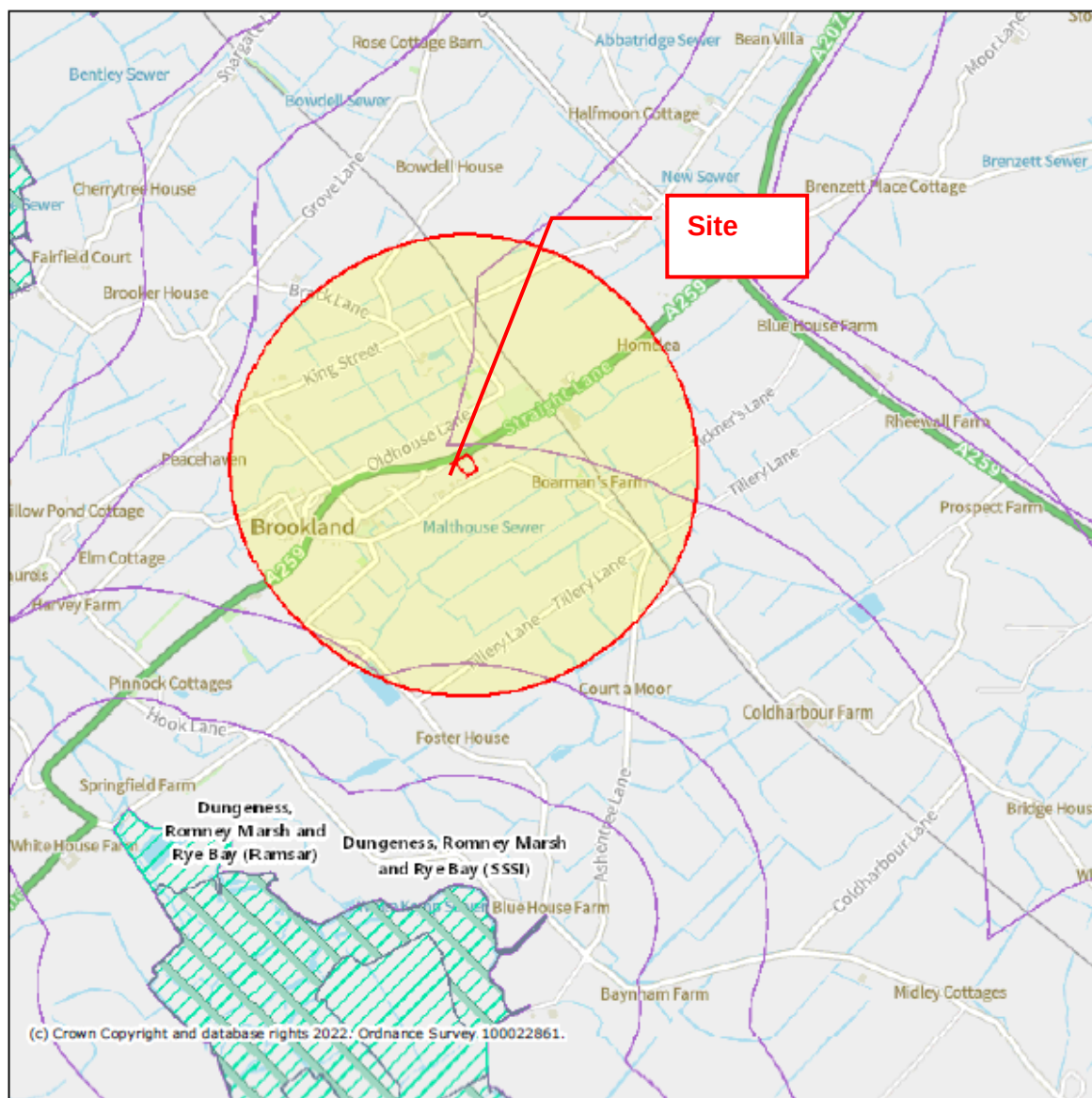
- Identify all relevant statutory and non-statutory designated sites and features of ecological significance within the site and its surroundings.
- Assess the potential for the presence of protected species and species of principal conservation importance, important habitats or other biodiversity features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

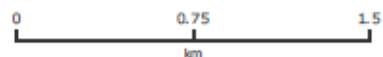
This report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct and the opinions expressed are true and professional bona fide opinions. It records the potential for flora and fauna evident on the days of the 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.



Legend

-  Ramsar Sites (England)
-  Sites of Special Scientific Interest (England)
-  SSSI Impact Risk Zones - to assess planning applications for likely impacts on SSSIs/SACs/SPAs & Ramsar sites (England)
-  Special Areas of Conservation (England)
-  Special Protection Areas (England)



Projection = OSGB36

xmin = 593400

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xmax = 606100

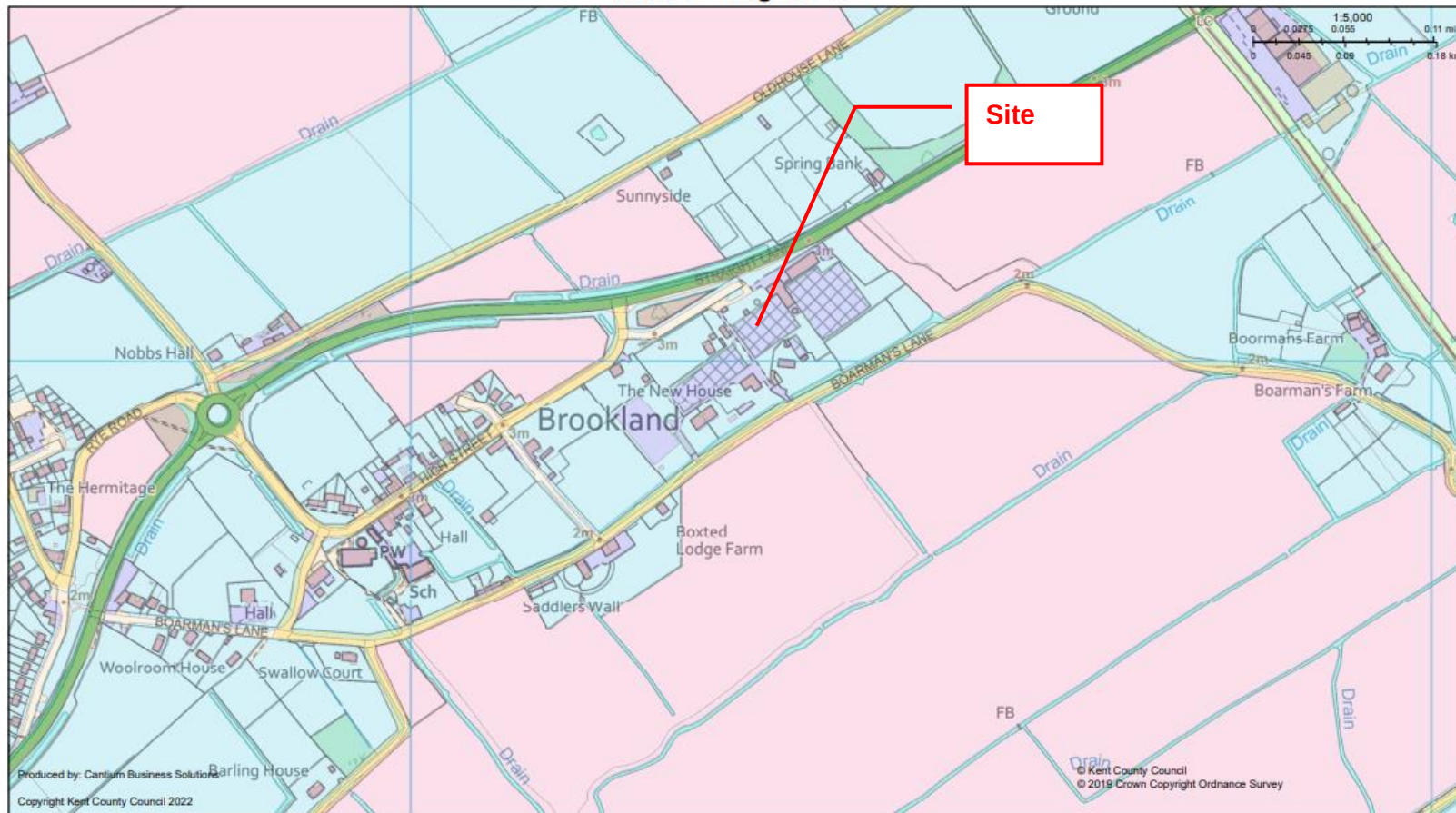
ymax = 128800

Map produced by MAGiC on 17 October, 2022.

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K-LIS - Figure 2

October 17, 2022



Legend

Kent Habitat Survey 2012

Acid grassland	Bracken	Coniferous woodland	Inland rock/Quarry	Neutral grassland	Supralittoral Sediment
Arable and horticulture	Broadleaved, mixed, and yew woodland	European dry heaths	Littoral Rock	Rivers and streams	Traditional orchard
Boundary and linear features	Built-up areas	Fen, marsh and swamp	Littoral Sediment	Standing open water and canals	Unknown terrestrial vegetation
	Calcareous grassland	Improved grassland	Maritime grassland	Supralittoral Rock	

Figure 3: indicates location of ponds and great crested newt records 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 20th September 2022 by Katia Bresso CEnv MCIEEM, a qualified professional consultant ecologist with over 20 years of experience³, licensed bat surveyor (Class Licence CL19, Level 3, Registration Number: 2016-27133-CLS-CLS) and Registered Consultant of the Bat Mitigation Class Licence (BMCL) 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 registration number 2020-50030-CLS-CLS). 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. 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 endoscope⁴, high powered torch (Cluson CB1 Clubman Standard High Power, 500,000 candle power), night vision scope and binoculars where needed.

All trees were also checked for suitability for roosting bats (from the ground only, using binoculars and an endoscope)⁵.

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 assessment and BREEAM

⁴ RIDGID CA-350x Inspection Camera System 63888

⁵ Please note that it is possible some bat roosting features may have been missed as the survey was undertaken whilst the trees were in full leaves

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.

But there is a statutory site of International Importance (Natura 2000 sites) within 3km; the Dungeness, Romney Marsh and Rye Bay. It is a Ramsar site⁶, a Special Area of Conservation SAC⁷, a Special Protection Area⁸, a National Nature reserve and a 57ha Site of Special Scientific Interest (SSSI). it is a nationally important site by reason of a diverse range of biological and geological features, specifically the coastal geomorphology of Dungeness and Rye Harbour and the following nationally important habitats: saltmarsh, sand dunes, vegetated shingle, saline lagoons, standing waters, lowland ditch systems, and basin fens. These habitats and others within the site support the following nationally important species interests: populations of four vascular plant species listed in Schedule 8 of the Wildlife and Countryside Act 1981 (as amended); an assemblage of Schedule 8, nationally rare and nationally scarce vascular plants; populations of the vulnerable Warne's thread-moss *Bryum warneum*; populations of water voles *Arvicola terrestris*; an assemblage of breeding birds associated with shingle beaches and saltmarsh, lowland damp grasslands, lowland open waters and their margins, and scrub; breeding numbers of 16 species of bird; assemblage of over 20,000 waterfowl in the non-breeding season; wintering numbers of 17 species of bird and three species during passage periods; metapopulations of great crested newts *Triturus cristatus*; endemic species and subspecies of invertebrates; populations of two invertebrate species listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); populations of ten endangered, vulnerable and rare invertebrate species; assemblages of invertebrates occurring on 'dry' coastal habitats; and assemblages of wetland invertebrates.

⁶ Ramsar sites are designated under the Convention on Wetlands of International Importance especially as Waterfowl Habitat. Wetlands are designated, protected and promoted in order to stem the progressive encroachment on and loss of wetlands, which are broadly defined to include marsh, fen, peatland and water. There are 5 Ramsar sites in Kent, and as with all Ramsar sites, they are also designated as SSSIs.

⁷ Special Areas of Conservation (SACs) are strictly protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites that will make a significant contribution to conserving the 189 habitat types and 788 species identified in Annexes I and II of the Directive (as amended). The listed habitat types and species are those considered to be most in need of conservation at a European level (excluding birds).

⁸ Special Protection Areas (SPA) are designated under the EC Birds Directive, to conserve the habitat of certain rare or vulnerable birds and regularly occurring migratory birds. Any significant pollution or disturbance to or deterioration of these sites has to be avoided. There are 6 SPA sites in Kent, and as with all SPA sites, they are also designated as SSSIs.

3.2 Habitats

The site is surrounded by arable land and pasture. It forms part of a larger horticultural farm holding, which is a horticultural nursery farm for soft fruits, comprised of large glass houses, farm buildings and mobile homes.

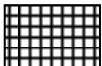
The Integrated Habitat System (IHS) classification of the Kent Habitat Survey 2012 describes the site as:

- *Built-up areas,*
- *Improved grassland.*

Indeed the site consists of a number of caravans, porta-cabins, small sheds on hard standing and gravel with areas of long grass, and a large disused glasshouse⁹, with an area of short mowed grass to the south used for car parking, lined with ash, buddleia and sycamore.

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

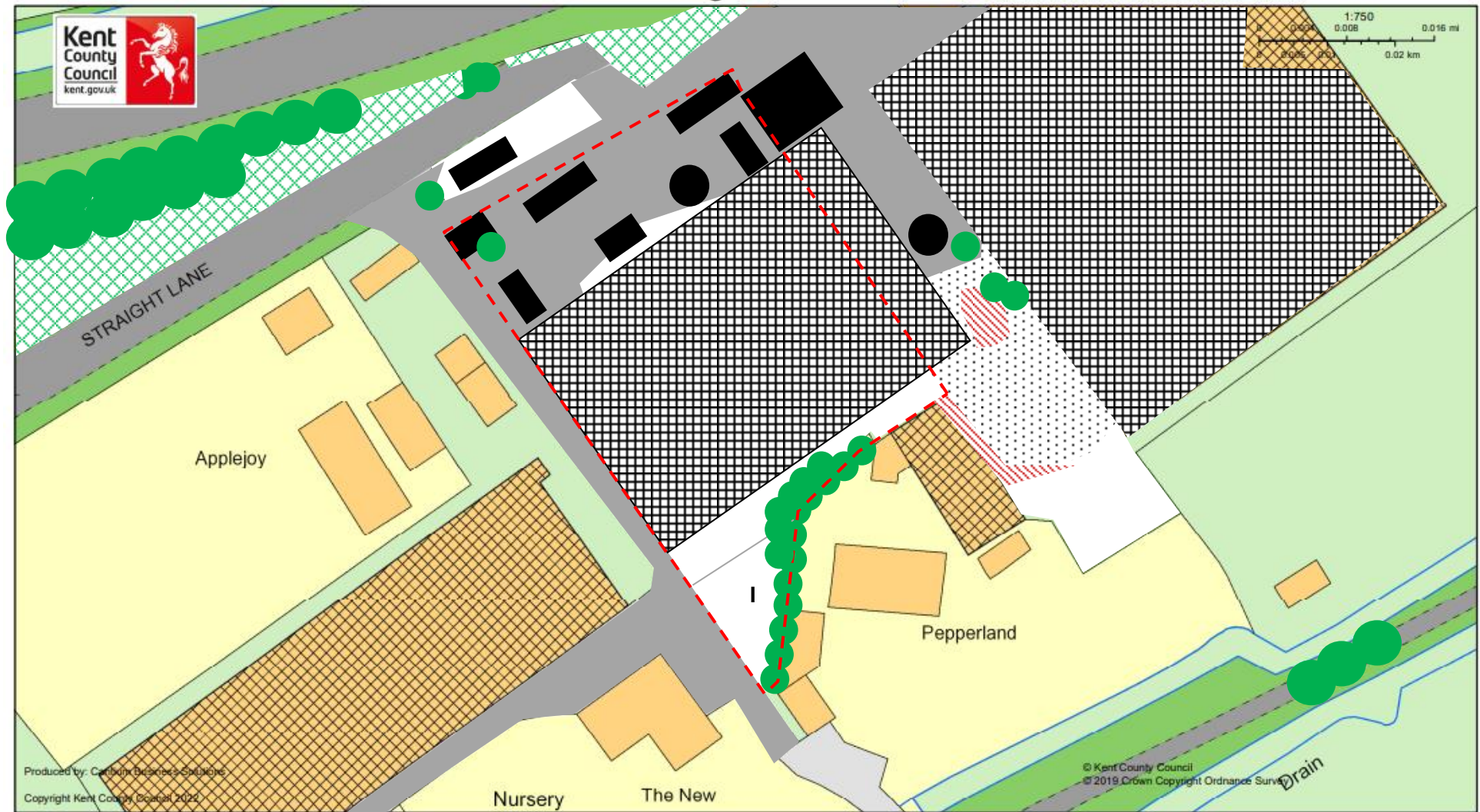
Legend of Phase 1 habitat survey map hereafter:

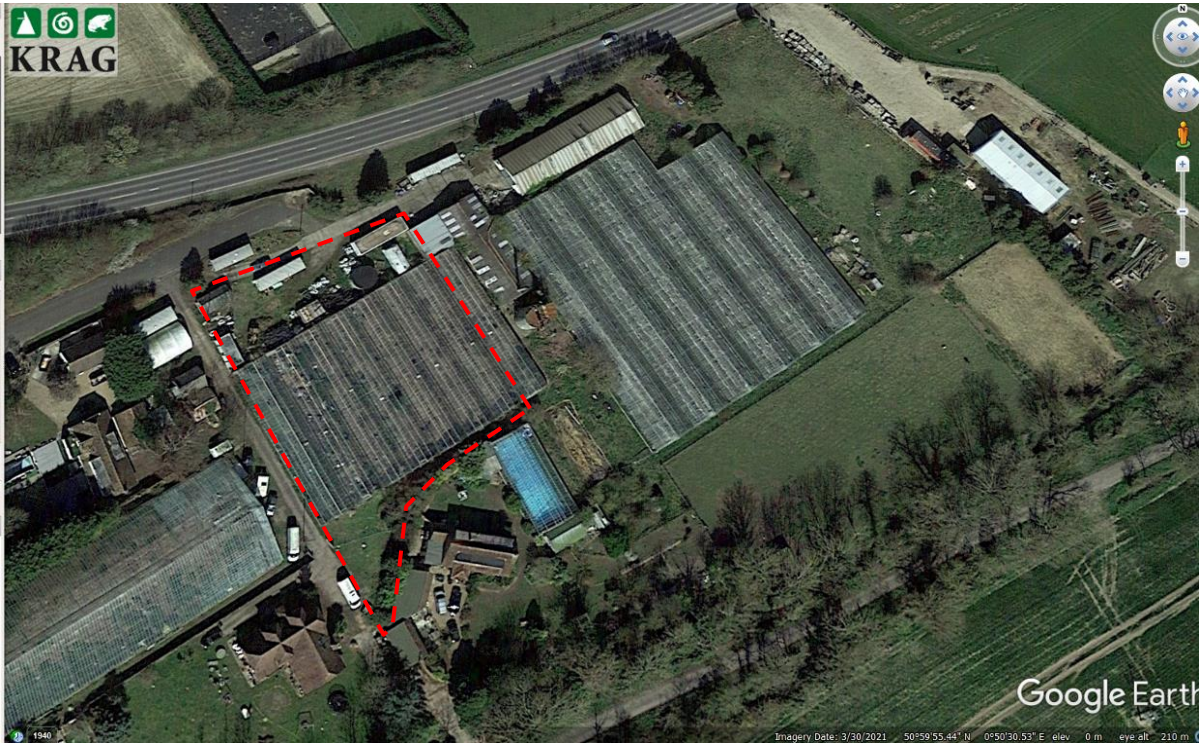
	Site boundary
	Hard standing / Gravel
	Glass houses
	Sheds/caravans/portacabins/buildings
	Improved grassland
	Individual tree (number and location approximate)

⁹ Vegetation and even scrub is present internally

Figure 4

October 17, 2022





3.3 Amphibians

The data search carried out with Krag (Enquiry No: CES/22/206) revealed that the closest recorded Great Crested Newt *Triturus cristatus* site is located 0.58 km to the SW (record id: 93240).

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'¹⁰, with 14 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.*'

In *Advice for land managers*, Natural England (2007) states:

¹⁰ Likelihood of Presence Scores are described using the following categories: Unlikely<Possible<Likely<High

'Great crested newt may disperse several hundred metres, sometimes over 1km, from the breeding pond, though at most sites the majority of the population is normally found within around 100m of it.'

No ponds are present on site or within 100m but there are drains, which could host breeding great crested newts; and there are four ponds within 250m.

The Great Crested Newt Conservation Handbook, 2001 states that 'very short pasture is easily traversed by newts, and provides night-time foraging, but little in the way of shelter' (Great Crested Newt Conservation Handbook, 2001). More optimal habitats include woodland, scrub, ditches, hedgerows, taller/rougher grassland.

Thus, the site offers low quality potential terrestrial habitat for great crested newts which could be present throughout the site, foraging at night and taking shelter under tree roots, rabbit warren, piled goods and even within the glasshouse throughout the year, even with winter.

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/guidance/great-crested-newts-surveys-and-mitigation-for-development-projects>

3.4 Reptiles

The Krag datasearch revealed that the closest recorded reptile is a historical record for Grass Snake, located at Brookland, approximately 0.94 km to the SW (record id: 4004). 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	1.70
Slow-worm:	unlikely	4.89
Sand Lizard:	unlikely	50.49
Grass Snake:	Possible	1.58
Adder:	unlikely	13.32
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 site offers restricted areas of suitable habitat for reptiles.

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). The adder is also a Priority Species under the Kent Biodiversity Strategy¹¹.

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 within the glasshouse.

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 no potential to support the hazel dormouse due to lack of connection to suitable woodlands. No nests or signs of dormice were found during the site visit.

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 sheds. They were all judged as offering negligible suitability for roosting bats, being very small and of single skin construction (brick and tin or timber and felt) with no suitable cavities.

The glass house offered negligible suitability. And none of the trees offered suitability 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.

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);

¹¹ <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

- 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) and an Indicator Species under the Kent Biodiversity Strategy¹².

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

¹² <http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

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 website¹³:

Site Check Report generated on Mon Oct 17 2022
You selected the location: Centroid Grid Ref: TQ99402607
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 THE CATEGORIES BELOW?		2. IF YES, CHECK THE CORRESPONDING DESCRIPTION(S) BELOW. LPA SHOULD CONSULT NATURAL ENGLAND ON LIKELY RISKS FROM THE FOLLOWING:
All Planning Applications		All planning applications (except householder) outside or extending outside existing settlements/urban areas affecting greenspace, farmland, semi natural habitats or landscape features such as trees, hedges, streams, rural buildings/structures.
Infrastructure		Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
Wind & Solar Energy		Solar schemes with footprint > 0.5ha, all wind turbines.
Minerals, Oil & Gas		Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
Rural Non Residential		Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m ² or footprint exceeds 0.2ha.
Residential		Residential development of 10 units or more.
Rural Residential		Any residential development of 10 or more houses outside existing settlements/urban areas.
Air Pollution		Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m ² , slurry lagoons & digestate stores > 200m ² , manure stores > 250t).
Combustion		General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Waste		Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill.
Composting		Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
Discharges		Any discharge of water or liquid waste of more than 5m ³ /day to ground (ie to seep away) or to surface water, such as a beck or stream.
Water Supply		Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1,000m ² or more.
Notes 1		
Notes 2		
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.

¹³ 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>

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 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

Pond loss is often seen as the most damaging impact on great crested newt populations, but the loss of terrestrial habitat can also have serious consequences. Great crested newts live on land for the majority of their lives, and so loss of terrestrial areas, particularly those close to the breeding pond, can be very damaging. The main effect of habitat loss is reduction in population size, reduced foraging opportunities, reduced refuge opportunities leading to exposure to predators or harsh conditions, and unsuccessful hibernation.

There are a number of development activities which can affect great crested newts, which should be fully considered at the application stage. Great crested newts can migrate more than 500 metres from their breeding ponds in areas of suitable terrestrial habitat. However, generally the scale of potential impacts will decrease as the distance from the breeding pond increases.

It is recommended to undertake surveys of all ponds and drains present within 250m to ascertain if an impact is likely.

Full great crested newt surveys involve undertaking four visits to establish presence / likely absence (six visit for population estimate, if they are indeed present) between mid-March and mid-June, with at least two of these visits between mid-April and mid-May. Depending on each individual pond, this may consist of refuge search (looking under log piles and other refuges), egg searching, bottle trapping over-night and torching at night, all activities to be undertaken during suitable weather conditions (i.e. little/no rain, ambient night time air temperatures >5°C).

Alternatively, great crested newt Environmental DNA (eDNA) sampling could be undertaken (but this test only provides a presence/absence result, and gives no information about population size, should the species be present). It involves a GCN licence ecologist with suitable experience and training to collect water samples between 15th April and 30th June.

Should great crested newts be found, it will be necessary to undertake further surveys to assess the population size class and put together a mitigation strategy to minimise disturbance to the species and a Habitats Regulations licence (or a Natural England EPSM licence) will be needed to undertake the work. The mitigation strategy would entail fencing and trapping (for a minimum of 30 sessions for a low population and 90 for a large population, between March-October) prior to ground work starting, to minimise risk to animals. Insertion of habitat piles and pond management may be necessary.

Alternatively, it may be that the site can join a district level licensing scheme (pond surveys are not a requirement). The scheme permits acts, subject to licence conditions, including killing, injury, disturbance, capture and transport of GCN, as well as damage and destruction of their breeding sites and resting places. Impacts of development progressing under the Licence are being fully compensated for by off-site habitat provision that is being paid for by

the developer and for this reason the Licence does not specifically require any on-site avoidance or mitigation measures to be undertaken. However, where desirable, reasonable measures can be undertaken to minimise suffering to any GCN which may be present within or immediately adjacent to the development footprint¹⁴.

The client will need to let the Local Planning Authority know whether they will pursue the traditional EPS Licencing (if so, great crested newt surveys are needed) or the District Level Licencing (if so, they will need to submit a copy of the Impact Assessment and Conservation Payment Certificate from NE confirming that they have been accepted on to the DLL scheme).

4.4 Reptiles

Should reptiles be present, the proposal would result in killing and injuring of reptiles and loss of habitat. It is thus necessary to undertake further surveys to fully understand the impact.

The survey would consist of placing artificial refuges (i.e. 0.5 m² tins or roofing felt) in areas of suitable reptile habitat and leaving them in place for at least 1 week prior to the survey commencing. The refuges would be checked on seven separate occasions, over four weeks at least, to establish presence / likely absence during suitable weather conditions (i.e. cool weather with no heavy rain but sunny intervals between showers, and ambient air temperatures between 10-20°C).

Reptile surveys can be undertaken between March and October, the optimal months being April, May, June and September. Mid-summer temperatures and general activity levels are usually too high for refuges to be successfully used (surveys are highly weather dependent).

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 and greenhouses outside of the nesting season (which extends from March – August inclusive¹⁵) or only after a survey has confirmed the absence of nesting birds¹⁶. New hedgerow/trees/scrub planted and bird nesting boxes erected as part of the proposed development can replace the habitat lost.

4.6 Hazel Dormouse

No impact is expected onto dormice and thus no further work is recommended for this species.

¹⁴ see <https://www.gov.uk/government/publications/great-crested-newts-district-level-licensing-schemes>

¹⁵ It should be noted however that certain species are known to breed throughout the year (e.g. collared dove) and remain protected.

¹⁶ 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.

4.7 Badger

No impact is expected onto badgers and thus no further work is recommended for this species.

4.8 Bats

No impact is expected onto bats and thus no further work is recommended for these species. However, as lighting can be detrimental to roosting, foraging and commuting bats¹⁷, the recommendations from the Bat Conservation Trust and the Institution of Lighting Professionals, titled 'Guidance Note 8 Bats and Artificial Lighting'¹⁸, should be considered, when designing any lighting scheme for the proposed development.

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 be backfilled, covered overnight, or ramps placed in to allow any animals 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.

The Government announced it would mandate net gains for biodiversity in the Environment Bill in the 2019 Spring Statement. The Environment Bill received Royal Assent on 9 November 2021, meaning it is now an Act of Parliament. Mandatory biodiversity net gain as set out in the Environment Act applies in England only by amending the Town & Country Planning Act (TCPA) and is likely to become law in 2023. Biodiversity net gain requires developers to ensure habitats for wildlife are enhanced and left in a measurably better state than they were pre-development. They must assess the type of habitat and its condition before submitting plans, and then demonstrate how they are improving biodiversity – such as through the creation of green corridors, planting more trees, or forming local nature spaces. Green improvements on site would be encouraged, but in the rare circumstances where they are not possible, developers will need to pay a levy for habitat creation or improvement elsewhere¹⁹.

Under section 40 of the NERC Act (2006), paragraph 174 of the NPPF (2021) and the Environment Act (2021), biodiversity must be maintained and enhanced through the planning system. Additionally, in alignment with paragraph 180 of the NPPF 2021, the implementation of enhancements for biodiversity should be encouraged.

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.

Suggested biodiversity enhancements are listed below, as a palette for the developer to choose from:

¹⁷ <https://www.bats.org.uk/about-bats/threats-to-bats/lighting>

¹⁸ <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>

¹⁹ <https://deframedia.blog.gov.uk/2019/03/13/government-to-mandate-biodiversity-net-gain/>

- Provision of hedgehog nesting boxes²⁰.
- If any close board fencing is to be installed around the new development, we recommend that at least 13 x 13 cm holes should be cut into the base of the fences (one per garden) to allow greater permeability across the site to benefit ground-based terrestrial animals (such as hedgehog)²¹.
- Provision of ready-made bird boxes²² on retained trees;
- Provision of integrated 'swift bricks' in new buildings (as these are often occupied by other small cavity-nesting birds^{23, 24})²⁵. A ratio of at least two per residential dwelling, or one per 50sqm of commercial floor space is generally accepted now as good practice (see BS 42021:2022). It is suggested better to install them in small groups of 2/6 approx. one metre+ apart in suitable locations at a minimum height of 4 metres (5 metres is better).²⁶
- Provision of integrated bat boxes on new buildings²⁷ or bat boxes on retained mature trees²⁸.
- Establish climbing plants on walls and other vertical structures²⁹.
- Establish wildflower plug/bulb planting in amenity grassland and private gardens³⁰.
- Integration of Sustainable Urban Drainage Systems (SUDS)³¹.
- Establish Fruit Espaliers³².
- The landscape project team should refer to the 'Kent Design Guide'³³.

Priority should be given to habitats and species present on the Kent Biodiversity Strategy³⁴.

²⁰ <http://www.hedgehogstreet.org/pages/hedgehog-homes.html>

²¹ <https://www.hedgehogstreet.org/wp-content/uploads/2019/03/Hedgehogs-and-developers-ZR.pdf>

²² Integrated nest boxes in new buildings are preferred as they provide longer term nesting opportunities.

²³ <https://drive.google.com/file/d/1ljcJ7rlkNMrr4lxd41XcBU3YC6IFKM6z/view>

²⁴ <https://actionforswifts.blogspot.com/p/swift-bricks.html>

²⁵ Boxes integrated into buildings offer much greater longevity but need to be considered in the design process. One study found that incorporating bird/bat boxes into walls could cause cold spots on the interior, leading to condensation and possibly mould. They recommend additional insulation to prevent this; advice from an architect is advisable.

²⁶ Please note that there may be a need to provide insulation around the integrated box (thickness of 5 cm of insulation) in order to increase the thermal resistance of this wall and thus avoid the risk of condensation. The project architect should be consulted about such matters.

²⁷ Please note that there may be a need to provide insulation around the integrated box (thickness of 5 cm of insulation) in order to increase the thermal resistance of this wall and thus avoid the risk of condensation. The project architect should be consulted about such matters.

²⁸ <https://www.bats.org.uk/our-work/buildings-planning-and-development/bat-boxes>

²⁹ More information can be found here: <http://www.greenblueurban.com/climbing-plant-guide.php> and <http://www.london.gov.uk/priorities/environment/urban-space/parks-green-spaces/green-roofs-walls>

³⁰ Spring flowering bulbs and plugs of nectar rich flowering plants should be embedded into amenity grassland to increase the biodiversity and amenity value of the grassland and to provide early sources of nectar for insects. Suitable bulbs include Snake's head fritillary *Fritillaria meleagris*, Ramsons *Allium ursinum*, Snowdrop *Galanthus nivalis*, Primrose *Primula vulgaris*, Bluebell *Hyacinthoides non-scriptus*, Wild daffodil *Narcissus pseudonarcissus*, Lesser celandine *Ranunculus ficaria*

³¹ <http://www.ciria.org.uk/suds/index.html> for more information

³² <http://apps.rhs.org.uk/advicesearch/profile.aspx?PID=319> for more information

³³ <https://www.kent.gov.uk/about-the-council/strategies-and-policies/regeneration-policies/kent-design-guide>

The project team should follow advice from the recently published 'Biodiversity in new housing developments: creating wildlife-friendly communities'³⁵, which sets out approaches to design and development that work with nature to deliver multiple benefits – for people and wildlife.

³⁴ <https://kentnature.org.uk/wp-content/uploads/2022/01/Kent-Biodiversity-Strategy-2020.pdf>

³⁵ <https://www.nhbcfoundation.org/publication/biodiversity-in-new-housing-developments-creating-wildlife-friendly-communities/>

5 References and Bibliography

- Joint Nature Conservation Committee (2003). *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. JNCC, Peterborough.³⁶
- Bat Conservation Trust (2012). *Bat Surveys - Good Practice Guidelines – 2nd Edition*. Bat Conservation Trust, London.
- 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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³⁶ 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>

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	Legal Protection
Great crested newts and other amphibians	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 2019 (as amended) and is therefore a European Protected Species (EPS); further protection is afforded by the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to: • Deliberately capture (or take), injure or kill GCN • Deliberately or recklessly disturb GCN, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species. • Damage or destroy a breeding site or resting place - even if GCN are not occupying the place at the time; • Intentionally or recklessly obstruct access to a sheltering or resting place. An EPS licence is required from Natural England before works can be undertaken which will impact on GCN and/or their habitat (such as any damage to or removal of ponds, grassland, hedgerow bases or dense scrub in which they are likely to occur). Great crested newts and common toads are also listed as Species of Principal Importance under Section 41 of the NERC Act 2006.
Hazel dormice	The hazel dormouse 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 2019 (as amended) and is therefore a European Protected Species (EPS); further protection is afforded by the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to: • Deliberately capture (or take), injure or kill hazel dormouse • Deliberately or recklessly disturb hazel dormouse, in particular (i) any

	disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species. • Damage or destroy a breeding site or resting place - even if dormice are not occupying the place at the time; • Intentionally or recklessly obstruct access to a sheltering or resting place. An EPS licence is required from Natural England before works can be undertaken which will impact on dormouse and/or their habitat (such as any damage or removal of hedgerows, woodland or dense scrub in which they are likely to occur). Hazel dormouse is also listed as a Species of Principal Importance under Section 41 of the NERC Act 2006.
Bats	All British bat species receive full legal protection in the United Kingdom. The Conservation of Habitats and Species Regulations 2019 (as amended) legally protects all bat species in the UK and further protection is afforded by the Wildlife and Countryside Act 1981 (Schedule 5) and the Countryside and Rights of Way Act 2000. Taken together, the legislation makes it a criminal offence to: • Deliberately capture (or take), injure or kill a bat. • Deliberately or recklessly disturb a bat, in particular (i) any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) any disturbance which is likely to impair their ability to hibernate or migrate; or (iii) any disturbance which is likely to affect significantly the local distribution or abundance of the species concerned. • Damage or destroy a breeding site or resting place (roost) of a bat- even if bats are not occupying the roost at the time; • Intentionally or recklessly obstruct access to a roost; • Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat. An EPS Licence for bats is required where works are expected to contravene the above legal protection. Under the law, a roost is 'any structure or place used for shelter or protection'. For example any building or suitable tree. Bats use many roost sites and feeding areas throughout the year. Since bats tend to re-use the same roosts for generations, the roost is protected whether the bats are present or not.
Reptiles	The more widespread species of reptile – slow-worm, viviparous lizard, grass snake and adder - are afforded legal protection against killing and injury under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). All six UK reptile species are listed as Species of Principal Importance under Section 41 of the NERC Act 2006.
Badgers	The Protection of Badgers Act 1992 was introduced in recognition of the additional threats that badgers face from illegal badger digging and baiting. Under the Act, it is an offence to: • Wilfully kill, injure or take a badger, or to attempt to do so; • Cruelly ill-treat a badger; or • Intentionally or recklessly interfere with a badger sett by (a) damaging a sett or any part of one; (b) destroying a sett; (c) obstructing access to or

	any entrance of a sett; (d) causing a dog to enter a sett; or (e) disturbing a badger when it is occupying a sett.
Breeding birds	The Wildlife & Countryside Act 1981 (as amended) protects all birds, their nests and eggs – it is an offence to intentionally kill, injure or take any wild bird or its eggs, and/or to take, damage or destroy the nest (whilst being built or in use). There is additional protection for rarer species – making it an offence to disturb any wild bird listed on Schedule 1 (such as hobby) while it is nest building, or at a nest containing eggs or young, or to disturb the dependent young of such a bird. Some species are also listed as species of a Species of Principal Importance under Section 41 of the NERC Act 2006, including skylark, common cuckoo, house sparrow, tree sparrow and song thrush.
Hedgehogs	Hedgehogs are listed on schedule 6 of the Wildlife and Countryside Act (1981) which makes it illegal to kill or capture wild hedgehogs. They are also listed under the Wild Mammals Protection Act (1996), which prohibits cruel treatment of hedgehogs Hedgehogs are a species of 'principal importance' under the NERC Act, the act confers 'a duty of responsibility' on local authorities with regard to the species.
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.

Kent Biodiversity Strategy

The Kent Biodiversity Strategy was approved by the Kent Nature Partnership in February 2020. It aims to deliver, over a 25 year period, the maintenance, restoration and creation of habitats that are thriving with wildlife and plants and ensure that the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health.

The Strategy looks to protect and recover threatened species and enhance the wildlife habitats that Kent is particularly important for. It also aims to provide a natural environment that inspires citizen engagement and is well used and appreciated, so that the mental and physical health benefits of such a connection can be realised by the people of Kent.

The Strategy has identified 17 priority habitats and 13 priority species that Kent can play a significant part in the restoration of. It has also identified a handful of species that can act as indicators of the health of our ecosystems. In addition, the Strategy looks to further work addressing overarching considerations affecting biodiversity recovery, including wilding, climate change, natural solutions, soil health and invasive species.

Further information can be found here:

<http://kentnature.org.uk/uploads/files/Nat-Env/Kent%20Biodiversity%20Strategy%202020.pdf>

Red Data Books

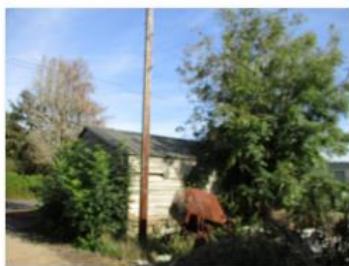
British Red Data Books (RDB) are an additional method for classifying the rarity of species, and are often seen as a natural progression from Biodiversity Action Plans.

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_2391



✓ IMG_2393



✓ IMG_2394



✓ IMG_2395



✓ IMG_2396



✓ IMG_2397



✓ IMG_2398



✓ IMG_2400



✓ IMG_2401



✓ IMG_2402



✓ IMG_2403



✓ IMG_2404



✓ IMG_2405



✓ IMG_2406



✓ IMG_2407



✓ IMG_2408



✓ IMG_2409



✓ IMG_2410



✓ IMG_2411



✓ IMG_2412



✓ IMG_2413



✓ IMG_2414



✓ IMG_2415