Preliminary Ecological Appraisal

Berengrave Nursery
Rainham
Kent
Contents

1.0 INTRODUCTION .......................................................................................................................................... 4
  BACKGROUND ................................................................................................................................................. 4
  SITE CONTEXT AND STATUS ....................................................................................................................... 4

2.0 METHODOLOGY ........................................................................................................................................... 10
  DESKTOP STUDY ............................................................................................................................................... 10
  PRELIMINARY ECOLOGICAL APPRAISAL ........................................................................................................ 10
  BADGER SURVEY ............................................................................................................................................. 11
  TREE ASSESSMENT FOR BATS ......................................................................................................................... 13
  OTHER PROTECTED SPECIES .......................................................................................................................... 14
  LIMITATIONS .................................................................................................................................................. 15

3.0 RESULTS ...................................................................................................................................................... 15
  DESKTOP STUDY ............................................................................................................................................... 15
  PHASE 1 HABITAT SURVEY ................................................................................................................................. 19
  PROTECTED SPECIES ........................................................................................................................................ 21

4.0 DISCUSSION .................................................................................................................................................. 25
  THE SITE ......................................................................................................................................................... 25
  PROTECTED SPECIES ...................................................................................................................................... 28
  GENERAL SITE ENHANCEMENTS ...................................................................................................................... 36

5.0 CONCLUSIONS ............................................................................................................................................. 37

6.0 REFERENCES ................................................................................................................................................. 39

APPENDIX 1: PHASE 1 HABITAT MAP .................................................................................................................. 40
APPENDIX 2: PHOTOGRAPHS ........................................................................................................................... 41
APPENDIX 3: BIOLOGICAL RECORDS SUMMARY – FULL RECORDS AVAILABLE ON REQUEST ................. 42
LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing and whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date.

This report provides a snapshot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated only dominant species may be recorded.

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

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

Background

1.1 The Ecology Partnership was commissioned by Gleeson Strategic Lane to carry out a preliminary ecological appraisal (PEA) at Berengrave Nurseries, Rainham, Kent, ME8 7NL.

1.2 This report presents the results of The Ecology Partnership’s surveys in and around the site, which aims specifically to assess the site’s potential to support protected species and protected habitats that may be affected by the proposed development. Potential mitigation measures and recommendations for the site will be included within this report.

1.3 Section 2 of this report sets out the methodologies of the Ecology Partnership’s surveys. In section 3, the results of the surveys are presented. Discussions and implications for development are found in section 4, including general site enhancements. Conclusions drawn from the report are presented in section 5.

Site Context and Status

1.4 The site is situated in Lower Rainham on the edge of Gillingham in Kent (TQ 81482 66761). The site consists of an active nursery, outbuildings, an archery area, derelict land and wooded areas. It covers approximately 6ha and is surrounded by high-density housing, agricultural fields and woodland. Bloors Lane Community Woodland borders the site to the north and the railway line runs along the western edge. The site is within 2km of the Medway Estuary and Marshes Site of Special Scientific Interest (SSSI), Special Protection Area (SPA) and Ramsar site as well as the Berengrave Chalk Pit Local Nature Reserve (LNR).

1.4 The aerial photograph below (Figure 1) shows the site and its immediate surroundings. The red line depicts the approximate site boundary and survey area.
Description of Proposed Development

1.5 Proposed development on site will include a new residential development with associated landscaping and access. The design of the site will be informed by a number of surveys of which ecology is one.

Planning Policies

1.6 National and local planning policies may have an effect on the proposed development. The following paragraphs identify relevant planning policies and discuss these in the context of the site.
1.7 Under the Natural Environment and Rural Communities (NERC) Act (2006), “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity”. In order to comply with this ‘Biodiversity Duty’, planning decisions must ensure that they adequately consider the potential ecological impacts of a proposed development.

1.8 In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principle importance for conserving biodiversity. These were known as BAP habitats and species. The UK BAP lists of priority species and habitats remain an important and valuable reference certainly at county levels. However, the UK Post 2010 Biodiversity Framework (published 2012) has succeeded BAP. It was produced by JNCC and Defra, on behalf of the Four Countries’ Biodiversity Group (4CBG), through which the environment departments of all four governments in the UK work together to achieve the ‘Aichi Biodiversity Targets’ and the aims of the EU biodiversity strategy.

1.9 National policy guidance is provided by National Planning Policy Framework (NPPF), which sets out the Government’s planning policies for England and how they should be applied. Section 11 of the document is entitled ‘Conserving and Enhancing the Natural Environment’. This section highlights the following:

“The planning system should contribute to and enhance the natural and local environment by:

• Protecting and enhancing valued landscapes, geological conservation interests and soils;
• Recognising the wider benefits of ecosystem services;
• Minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government’s commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.”

1.10 In addition to this, the following paragraphs are also considered to be relevant:
“In preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with the least environmental or amenity value, where consistent with other policies in this Framework.”

“Planning policies and decisions should encourage the effective use of land by re-using land that has been previously developed (brownfield land), provided that it is not of high environmental value. Local planning authorities may continue to consider the case for setting a locally appropriate target for the use of brownfield land.”

1.11 The site falls under the jurisdiction of Medway Council. The Local Plan for Medway currently comprises Development Plan policies from a number of plans, including the Medway Local Plan 2003. A new Local Plan is currently being developed to replace the 2003 plan. Until then, the current plans contain a range of policies relating to nature conservation. Policies relevant to site include:

**Policy BNE35 – International and National Nature Conservation Sites**

“International and National Nature Conservation Sites, as defined on the proposals map, will be given long term protection:

i. classified and potential Special Protection Areas (SPAs);

ii. listed and proposed Ramsar sites;

iii. National Nature Reserves;

iv. Sites of Special Scientific Interest.

Any new areas subsequently proposed or confirmed for these designations will also be subject to this policy provision, as would any subsequent proposed or designated Special Area of Conservation (SAC).

Development that would materially harm, directly or indirectly, the scientific or wildlife interest of these sites will not be permitted unless the development is connected with, or necessary to, the management of the site’s wildlife interest.

Development for where there is an overriding need will exceptionally be permitted if no reasonable alternative site is (or is likely to be) available. The overriding need will be judged against the
national and/or international ecological importance of the affected nature conservation designation.

When a Special Protection Area or Special Area of Conservation is affected, the need must comprise imperative reasons of overriding public interest. If the affected Special Protection Area or Special Area of Conservation hosts a priority habitat or species, then the need must relate to human health, public safety or beneficial consequences of primary importance to the environment, or to other imperative reasons of public interest established by the European Commission. In such exceptional circumstances, the detrimental impact upon the scientific or wildlife interest should be minimised and appropriate compensatory measures will be required.”

Policy BNE36 – Strategic and Local Nature Conservation Sites

“Strategic and Local Nature Conservation Sites, as defined on the Proposals Map, will be given long term protection:

i. Sites of Nature Conservation Interest;

ii. Designated and proposed Local Nature Reserves.

Development that would materially harm, directly or indirectly, the scientific or wildlife interest of these sites will not be permitted unless the development is connected with, or necessary to, the management of the site’s wildlife interest.

Development for which there is an overriding need will exceptionally be permitted if no reasonable alternative site is (or is likely to be) available. The overriding need will be judged against the strategic and/or local importance of the affected nature conservation designation. In such exceptional circumstances, the detrimental impact upon the scientific or wildlife interest should be minimised and appropriate compensatory measures will be required.”

Policy BNE37 – Wildlife Habitats

“Development that would cause a loss, directly or indirectly, of important wildlife habitats or features not protected by policies BNE35 and BNE36 will not be permitted, unless:

i. there is an overriding need for the development that outweighs the importance of these wildlife resources; and
ii. no reasonable alternative site is (or is likely to be) available if ancient woodland, inter-
tidal habitats and calcareous (chalk) grassland would not be lost; and

iii. the development is designed to minimise the loss involved; and

iv. appropriate compensatory measures are provided.”

**Policy BNE38 – Wildlife Corridors and Stepping Stones**

“Development should, wherever practical, make provision for wildlife habitats, as part of a
network of wildlife corridors or stepping stones.”

**Policy BNE39 – Protected Species**

“Development will not be permitted if statutorily protected species and/or their habitat will be
harmed.

Conditions will be attached, and/or obligations sought, to ensure that protected species and/or
their habitats are safeguarded and maintained.”

**Policy BNE41 – Tree Preservation Orders**

“Tree Preservation Orders will be used to protect trees, groups of trees and woodland of
important public amenity value. In considering applications for works to protected trees, regard
will be had to:

i. the future health and appearance of the trees and woodlands;

ii. where appropriate, requiring replacement planting of felled trees, the planing of an
increased number of trees and ensuring that the planting is incorporated in, and/or
adjacent to, the site where the trees are to be felled; and

iii. resisting applications for clear felling woodland and requiring recoppicing or other
woodland management to be carried out in accordance with good arboricultural practice.”

**Policy BNE42 – Hedgerow Retention**

“Important hedgerows will be retained and protected.”
Policy BNE43 – Trees on Development Sites

“Development should seek to retain trees, woodlands, hedgerows and other landscape features that provide a valuable contribution to local character.”

Policy BNE44 – Community Woodlands

“Development that would prejudice the implementation of the proposed community woodlands, as defined on the proposals map, will not be permitted.”

1.15 The site was surveyed to assess its ecological value and to ensure compliance with national and local plan policies. The report has been produced with reference to current guidelines for preliminary ecological appraisal (CIEEM 2013) and in accordance with BS 42020:2013 Biodiversity – Code of Practise for Planning and Development.

2.0 Methodology

Desktop Study

2.1 A desktop study search was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites and an internet-based aerial mapping service (maps.google.co.uk) was used to understand the habitats present in and around the survey area and habitat linkages and features (ponds, woodlands etc.) within the wider landscape. Records for the site and local area (up to 2km) were purchased from the Kent and Medway Biological Records Centre.

Preliminary Ecological Appraisal

2.2 A Preliminary Ecological Appraisal (PEA) including an extended phase 1 habitat survey was undertaken on 5th April 2017 by ecologist Tom Rothero BSc (Hons) MSc MCIEEM. The surveyors identified the habitats present, following the standard ‘Phase 1 habitat survey’ auditing method developed by the Joint Nature Conservancy Council (JNCC). The site was surveyed on foot and the existing habitats and land uses were recorded on
an appropriately scaled map (JNCC 2010). In addition, the dominant plant species in each habitat were recorded, as was any evidence of protected species.

**Badger Survey**

2.3 A badger survey was undertaken at the site to assess if badgers were using the area and if any setts were located on the site and 30m away from the site that might constrain development. The evaluation of badger activity was based on methodology developed for the National Survey of Badgers (Creswell *et al.* 1990) and includes searching for badger field signs such as setts, badger pathways, tracks (pawprints), dung piles with latrines, badger hairs and feeding signs such as snuffle holes.

2.4 During the survey, all habitats potentially suitable for badgers were systematically examined for evidence of badger activity including:

- **Setts:** several sett types may be present within a social group territory, ranging from a single hole to numerous interconnecting tunnels. Setts can be categorised into main, annexe, subsidiary and outlier (Wilson *et al.* 1997).
- **Latrine sites:** badgers characteristically deposit dung in pits, which may be located along the boundaries and within the social group territory. These sites serve as means of inter- and intra-group communication.
- **Paths and runs:** well used routes between setts and/or foraging areas. Often used by generations of badgers.
- **Snuffle holes:** areas of disturbed vegetation often formed by badgers foraging for ground dwelling invertebrates such as earthworms and larvae and the underground storage organs of plants.
- **Hair:** often found among spoil and bedding outside entrances to setts or snagged on fences (such as barbwire) along well-used runs.
- **Footprints:** easily distinguishable from other large mammal species. Often found along paths and runs or in spoil outside sett entrances.
Building Assessment for Bats

2.5 The surveyors undertook an internal and external examination of the buildings to be affected by the proposed works, including all accessible roof voids. The surveyors assessed the buildings visually and searched for evidence such as:

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

2.6 The buildings on site were accessed during the day. An external investigation assessed the tiles and structural timber joints of the buildings. This was undertaken in order to see if there were access points readily available for bats to utilise or crevices that bats could be roosting in.

2.7 Buildings which are considered to have a higher potential to support roosting bats would include the following:

- Agricultural buildings (e.g. farmhouses, barns and out buildings) of traditional brick or stone construction and/or with exposed beams;
- Buildings with weatherboarding and/or hanging tiles that are within 200m of woodland and/or water;
- Pre-1960s detached buildings and structures within 200m of woodland and/or water;
- Pre-1914 buildings within 400m of woodland and/or water;
- Pre-1914 buildings with gable ends or slate roofs regardless of location;
- Buildings which are located within or immediately adjacent to woodland and/or immediately adjacent to water;
- Dutch barns or livestock buildings with a single skin roof and board and gap or Yorkshire boarding if, following a preliminary roost assessment the site appears to be particularly suited to bats.
Tree Assessment for Bats

2.8 The trees on site were assessed for their potential to support roosting bats. Bats can use trees to rest, give birth, raise young and/or hibernate. The trees were assessed visually for evidence of bats as well as for features that increase the likelihood of roosting bats, such as the following:

- Woodpecker holes, natural cracks and rot holes in trunks and branches;
- Frost cracks;
- Trunk and branch splits;
- Hollow sections of trunk and branches;
- Loose bark;
- Cavities beneath old root buttresses and coppice stools;
- Dense epicormic growth;
- Dense ivy cover.

2.9 Veteran trees typically exhibit many of these features and should usually be regarded as sites with clear potential, but any tree possessing one or more such feature, may host bats. Any tree species can be suitable but oak and beech often seems to be the preferred option. However, bats rarely restrict themselves to one tree. They change their roost sites frequently, sometimes every two to three days, looking for small differences in temperature and humidity.

2.10 Roosts of bats in trees may be identified from the following field signs:

- Black stains beneath cracks, splits and other features where bat dropping have fallen;
- Dark marks at entrance points where bats have rubbed against the wood and left natural body oils;
- Feeding remains beneath roosts, such as insect wings;
- Chattering of bats;
- Bat droppings under access points;
- Scratch marks around a feature (cavity or split) caused by bat claws;
- Urine stains below the entrance or end of split;
- Large roosts or regularly used sites may produce an odour;
- Flies around the entrance, attracted by the smell of guano.
2.11 Trees scheduled for arboricultural work should also be assessed, and may be categorised (Table 1) to relate the value of their features to recommended actions. This approach allows trees to be graded according to their potential to support bat roosts. Trees may be assessed as having the potential to support bats (from an individual to a larger roost) even if no bats have been found.

**Table 1: Protocol for visual inspection of trees to assess their value to bats - taken from Table 4.1 within the ‘Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition’ (Bat Conservation Trust 2016)**

<table>
<thead>
<tr>
<th>Suitability</th>
<th>Roosting habitat description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negligible</td>
<td>Negligible habitat features on-site likely to be used by roosting bats.</td>
</tr>
<tr>
<td>Low</td>
<td>A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential.</td>
</tr>
<tr>
<td>Moderate</td>
<td>A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.</td>
</tr>
<tr>
<td>High</td>
<td>A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.</td>
</tr>
</tbody>
</table>

**Other Protected Species**

2.12 The site was also inspected for indications of the presence of other protected species, as follows:

- Relevant habitat for dormice such as dense deciduous woodland, coppice and thick shrubbery
- Ponds and associated habitat suitable to support great crested newts
- Tussocky grassland and associated habitat suitable to support reptiles
- The presence of ditches for water voles
- The presence of fresh water stream/rivers for otters
- Suitable nesting places for birds
- Other potential protected species
Limitations

2.13 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment. The site was visited over the period of one site visit, as such seasonal variations cannot be observed and potentially only a selection of all species that potentially occur within the site have been recorded. Therefore, the survey provides a general assessment of potential nature conservation value of the site and does not include a definitive plant species list.

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

3.0 Results

Desktop Study

3.1 The site does not fall within any statutory designated areas, however, there are designations within 2km of the site. These are:
   - Berengrave Chalk Pit Local Nature Reserve (LNR) approximately 200m east;
   - Medway Estuary and Marshes Special Protection Area (SPA), Site of Special Scientific Interest (SSSI) and Ramsar approximately 700m northeast.

3.2 There are also a number of internationally designated sites within 10km of the site and these include:
   - North Downs Woodland Special Area of Conservation (SAC) approximately 8km southwest;
   - Peters Pit SAC approximately 10km southwest;
3.3 There are numerous notable habitats on and within 2km of the site (Figure 2). Much of the site consists of priority deciduous woodland with other units within 300m northeast. Ancient woodland is approximately 1.9km southwest of site. There are also wetland habitats within 900m of the site as part of Medway Estuary and Marshes, which include reedbeds, mudflats and saltmarsh.

Figure 2: Priority deciduous woodland (green), ancient semi-natural woodland (hatches), coastal saltmarsh (light green), reedbed (dark green) and mudflat (brown) habitats identified within 2km of the red line boundary.

3.4 A 2km data search was requested from Kent and Medway Biological Records Centre. The records closest to site and recorded within the last 10 years have been included (Table 2).
Table 2: Notable species records within 2km of the site in the last 10 years

<table>
<thead>
<tr>
<th>Species</th>
<th>Status</th>
<th>Closest record distance</th>
<th>Recent record year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Great Crested Newt</td>
<td>Wildlife and Countryside Act (1981 as amended) Schedule 5; Bern Convention Appendix 2; European Protected Species; Habitats Directive Annex 2 &amp; 4; NERC Act (2006) Section 41</td>
<td>Approximately 1.7km W</td>
<td>2011</td>
</tr>
<tr>
<td>Common Lizard</td>
<td>Wildlife and Countryside Act (1981 as amended) Schedule 5; NERC Act (2006) Section 41; Bern Convention Appendix 3</td>
<td>Approximately 600m N</td>
<td>2012</td>
</tr>
<tr>
<td>Slow Worm</td>
<td>Wildlife and Countryside Act (1981 as amended) Schedule 5; NERC Act (2006) Section 41; Bern Convention Appendix 3</td>
<td>Approximately 500m N</td>
<td>2013</td>
</tr>
<tr>
<td>Grass Snake</td>
<td>NERC Act (2006) Section 41; Bern Convention Appendix 3</td>
<td>Approximately 780m N</td>
<td>2012</td>
</tr>
<tr>
<td>Adder</td>
<td>NERC Act (2006) Section 41; Wildlife and Countryside Act (1981 as amended) Schedule 5; Bern Convention Appendix 3</td>
<td>Approximately 600m N</td>
<td>2007</td>
</tr>
<tr>
<td>Western European Hedgehog</td>
<td>NERC Act (2006); Bern Convention Appendix 3</td>
<td>Approximately 500m SW</td>
<td>2015</td>
</tr>
<tr>
<td>Species</td>
<td>Protection Regulations</td>
<td>Distance</td>
<td>Year</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td>Peregrine Falco peregrinus</td>
<td>Wildlife and Countryside Act (1981 as amended); Birds Directive Annex 1; Bern Convention Appendix 2</td>
<td>Within 2km</td>
<td>2015</td>
</tr>
<tr>
<td>Merlin Falco columbarius</td>
<td>Wildlife and Countryside Act (1981 as amended); Birds Directive Annex 1; Bern Convention Appendix 2</td>
<td>Within 2km</td>
<td>2015</td>
</tr>
<tr>
<td>Red kite Milvus milvus</td>
<td>Birds Directive Annex 1; Wildlife and Countryside Act (1981 as amended) Schedule 1; Convention on Migratory Species Appendix 2</td>
<td>Within 2km</td>
<td>2011</td>
</tr>
<tr>
<td>Species</td>
<td>Scientific Name</td>
<td>Directive and Legislation</td>
<td>Distance</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------</td>
<td>---------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Marsh harrier</td>
<td><em>Circus aeruginosus</em></td>
<td>Birds Directive Annex 1; Convention on Migratory Species Appendix 2</td>
<td>Within 2km</td>
</tr>
<tr>
<td>Hen Harrier</td>
<td><em>Circus cyaneus</em></td>
<td>Birds Directive Annex 1; Convention on Migratory Species Appendix 2; NERC Act (2006) Section 41</td>
<td>Within 2km</td>
</tr>
<tr>
<td>Osprey</td>
<td><em>Pandion haliaetus</em></td>
<td>Wildlife and Countryside Act (1981 as amended) Schedule 1; Birds Directive Annex 1</td>
<td>Within 2km</td>
</tr>
<tr>
<td>Hobby</td>
<td><em>Falco subbuteo</em></td>
<td>Wildlife and Countryside Act (1981 as amended) Schedule 1; Bern Convention Appendix 2</td>
<td>Within 2km</td>
</tr>
<tr>
<td>Lapwing</td>
<td><em>Vanellus vanellus</em></td>
<td>Birds Directive Annex 2.2; Convention on Migratory Species Appendix 2</td>
<td>Within 2km</td>
</tr>
<tr>
<td>Cuckoo</td>
<td><em>Cuculus canorus</em></td>
<td>NERC Act (2006); Red List</td>
<td>Within 2km</td>
</tr>
<tr>
<td>Skylark</td>
<td><em>Alauda arvensis</em></td>
<td>NERC Act (2006) Section 41; Birds Directive Annex 2.2</td>
<td>Within 2km</td>
</tr>
<tr>
<td>Nightingale</td>
<td><em>Luscinia megarhynchos</em></td>
<td>Bern Convention Appendix 2; Red List BoCC</td>
<td>Within 2km</td>
</tr>
<tr>
<td>Fieldfare</td>
<td><em>Turdus pilaris</em></td>
<td>Wildlife and Countryside Act (1981 as amended) Schedule 1; Red List BoCC</td>
<td>Within 2km</td>
</tr>
</tbody>
</table>

**Phase 1 Habitat Survey**

3.5 The site was dominated by large areas of deciduous woodland edged with areas of dense scrub; an area of rough neutral semi-improved grassland; improved grassland archery range and mature trees around the edges of the site. Part of the site is a commercial area including a working nursery and a conservatory and shed sales area.

**Buildings and Hard Standing**

3.6 The commercial area of the site is located to the eastern edge of the site adjacent to Berengrave Lane. This area supports numerous sheds, poly tunnels, glass houses, with areas of bare earth, hard standing present. Areas of ornamental planting area scattered within this location along side well managed lawn areas.
Rough Neutral Semi-improved Grassland

3.7 This habitat is located to the northern edge of the site, located adjacent to Bloors Community Woodland, with several small pockets scattered within the site.

3.8 The dominant species within the area of rough tussocky neutral semi-improved grassland in the northern area of the site included species such as: Yorkshire fog (Holcus lanatus), cock’s foot (Dactylis glomerata), false oat grass (Arrhenatherum elatius), false brome (Brachypodium sylvaticum), common nettle (Urtica dioica), umberlifer spp., common hogweed (Heracleum sphondylium), common ragwort (Senecio jacobea), willowherb (Epilobium spp.), broadleaved dock (Rumex obtusifolius), chervil (Anthriscus cerefolium), creeping thistle (Cirsium arvense), ground ivy (Glechoma hederacea), teasel (Dipsacus fullonum) and dandelion (Taraxacum agg.).

Neutral Improved Grassland

3.9 Part of the site was an archery range supporting an area of well-maintained improved grassland. This area was dominated by species such as common daisy (Bellis perennis), dandelion, creeping bent (Agrostis stolonifera), spear thistle (Cirsium vulgare), creeping thistle, rough hawkbit (Leontodon hispidus), bryophyte species and dog violet (Viola spp.).

Scattered trees & Deciduous Woodland

3.10 The site is dominated by deciduous woodland that was a mix of mature trees around the edges of the site, extending along the boundary of the railway line and extending along the north eastern edge of the site, including species such as English oak (Quercus robur), sycamore (Acer pseudoplatanus), cherry (Prunus spp), crab apple (Malus sylverstris), horse chestnut (Aesculus hippocastanum) and silver birch (Betula pendula).

3.11 The mature woodland habitat then graduates into a more ‘scrubby’ woodland habitat, which extends into the site. The main structure of this area of woodland comprised of semi-mature self seeded hawthorn (Crataegus monogyna) and some blackthorn (Prunus spinosa) with occasional ash (Fraxinus excelsior) and spindle (Euonymus europaea).
3.12 Due to the dense nature of the woodland there was very little understorey present, especially in the areas of dense blackthorn and hawthorn. Where present species included: ivy (*Helix hedera*), lords and ladies (*Arum maculatum*), cleavers (*Galium aparine*), nettle (*Urtica dioica*), bramble (*Rubus fruticosus agg*) and bryophyte species.

3.13 The finger of scattered trees present within the centre of the site was dominated by species such as hawthorn, blackthorn, willow (*Salix spp*) and elder (*Sambucas nigra*). The understory if this area is dominated by bramble scrub.

*Dense Continuous Scrub*

3.14 The areas of dense scrub on site were dominated by bramble (*Rubus fruticosus agg*) with common nettle and immature blackthorn and hawthorn present.

3.15 At the centre of the site were some large dead stems present that were considered possibly to be giant hogweed (*Heracleum mantegazzianum*), which is a schedule 9 invasive species. During the other further surveys on site this area should be monitored and not disturbed until giant hogweed presence or absence is confirmed. The location is shown on appendix 1.

*Protected Species*

*Badgers*

3.16 An active badger sett was found to be present in the western corner of the site. At the time of the survey five large active holes were found to be present along the south western boundary of the site beneath the boundary tree line with tunnels extending underneath the railway line. These holes showed signs of recent excavations and were well established.

3.17 Other evidence of badgers using the site included the presence of latrines, snuffle holes and mammal pathways which were found to be present in various locations around the site.
3.18 It must be noted that due to areas of dense scrub and dense hawthorn woodland not all areas of the site could be comprehensively searched for evidence of badger activity.

Assessment of Buildings for Roosting Bat Species

3.19 None of the buildings within the red line boundary for the site were considered to be suitable for supporting roosting bats species. All buildings were of a simple construction including sheds, showroom conservatories and a flat roofed prefab office building. There were no buildings on site with pitched tiled roofs with internal voids or any buildings with significant external features that could be utilised by roosting bat species.

Assessment of Trees for Roosting Bat Species

3.20 Several trees around the edges of the site were considered to have moderate potential for supporting roosting bat species due to their size and a covering of ivy growth around the main stems. Due to the presence of the ivy it was impossible to see any cracks or holes in the stem from ground level. The location of these threes can be found in appendix 1.

Commuting & Foraging Habitats for Bat Species

3.21 The linear features on site, such as the boundary tree lines and woodland edges, are likely to be used by bats in the local area for foraging and commuting purposes. The tree lines will also provide connectivity into the wider landscape including off site habitats such as Bloor’s Community Woodland, which is located adjacent to the site.

3.22 The habitats present within the commercial area are considered to be of limited value to bats, supporting habitats of negligible ecological interest. The neutral improved grassland is species poor and unlikely to support a variety of invertebrates that would attract bats.

Hazel Dormice
3.23 The site was dominated by areas of dense broadleaved woodland that in themselves are considered to be optimal habitat for supporting hazel dormice. The areas of woodland have the potential to support a population of hazel dormice due to the potential food sources present and the optimal vertical stratification of the dense vegetation present creating excellent nesting opportunities and protection from predation.

3.24 The site however is isolated from any other significant areas of potential dormouse habitats by road systems, residential housing and the river Thames estuary to the north. Also, there are no records for hazel dormouse present within 2km of the site boundary.

**Great Crested Newts**

3.25 There is one pond present within 250m from the site boundary that is not behind a significant barrier to dispersal. The pond is a concrete ornamental pond with a dense population of gold fish present, it’s location is depicted below.

![Figure 3. Pond 1 location and 250m zone around site boundary](image)
The pond had concrete sides and was surrounded by hard standing on two sides. Goldfish were also present within the pond. The pond was assessed for its potential to support GCN (*Triturus cristatus*) using the Habitat Suitability Index criteria. The suitability index is calculated for each of the 10 categories. These are then analysed using the equation below to obtain the geometric mean or HSI score of the ten suitability indices.

$$\text{HSI} = (\text{SI}_1 \times \text{SI}_2 \times \text{SI}_3 \times \text{SI}_4 \times \text{SI}_5 \times \text{SI}_6 \times \text{SI}_7 \times \text{SI}_8 \times \text{SI}_9 \times \text{SI}_{10})^{1/10}$$

The calculated score should be between 0 and 1 and will fall within one of several bands, which correspond to a given category for the pond.

### Table 3. The HSI score for pond 1

<table>
<thead>
<tr>
<th>Index</th>
<th>Factor</th>
<th>Result</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location</td>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Pond Area</td>
<td>40m²</td>
<td>0.05</td>
</tr>
<tr>
<td>3</td>
<td>Permanence</td>
<td>Never Dries</td>
<td>0.9</td>
</tr>
<tr>
<td>4</td>
<td>Water Quality</td>
<td>Poor</td>
<td>0.33</td>
</tr>
<tr>
<td>5</td>
<td>Shading</td>
<td>0%</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Presence of Waterfowl</td>
<td>Absent</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Presence of Fish</td>
<td>Major</td>
<td>0.01</td>
</tr>
<tr>
<td>8</td>
<td>Pond Density</td>
<td>0</td>
<td>0.01</td>
</tr>
<tr>
<td>9</td>
<td>Suitable GCN Habitat Within 500m</td>
<td>Good</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Macrophyte Cover</td>
<td>10%</td>
<td>0.4</td>
</tr>
</tbody>
</table>

10th Root 0.24

Pond Suitability **Poor**
Reptiles

3.28 The area of rough semi-improved grassland in the northern area of the site is considered to be optimal habitat for reptile species such as slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*). This area of grassland has a long sward and tussocky composition offering optimal foraging and cover opportunities for reptile species. It is also fringed with areas of scrub and brash piles which provide optimal hibernation habitats for such species during the winter months.

Other Species

3.29 The trees and shrubs on site have the potential to support nesting birds. Several common species were seen and heard on site at the time of the survey, including robin (*Eithacus rubecula*), great tit (*Parus major*), blue tit (*Cyanistes caeruleus*), magpie (*Pica pica*), chaff chaff (*Phylloscopus collybita*) and wood pigeon (*Columba palumbus*).

3.30 Owing to a lack of suitable habitat and connectivity, the site is not considered to have the potential to support species such as otters and water voles.

3.31 Brash piles and log piles were identified within the site boundaries. This can provide opportunities for saprophytic insects such as stag beetles, records for which were included within the records obtained from Kent Biodiversity Records Centre.

4.0 Discussion

The Site

*Designated Sites – Medway Estuary & Marshes SPA*

4.1 The site does not fall within any statutory or non-statutory designations. However, it does lie within 1km of the Medway Estuary and Marshes SPA, SSSI and Ramsar site. *Policy BNE35 – International and National Nature Conservation Sites* states that any development that will materially harm such site, directly or indirectly will not be permitted.
4.2 Development within the sites boundaries will not take any land from the SPA or cause any habitat isolation. Due to the distance involved, some 0.7km, pollution effects such as dust and surface water run off cause during the construction phase are also not considered to cause a direct negative effect. However, due to the population increase caused by a new residential development the development is likely to cause an indirect affect in the form of increased visitor pressures on the designated site through recreational use such as dog walking.

4.3 In Great Britain the Habitats Regulations implement the requirements of the Habitats Directive. The Regulations aim to protect sites in the UK that have rare or important habitats and species, such as the Medway Estuary and Marshes SPA, in order to safeguard biodiversity. Under these Regulations, the LPA have a duty to assess whether there is a risk of any plan or proposal having a significant impact on the integrity of the designated site in question.

4.4 The purpose of the Appropriate Assessment Screening is to analyse likely significant effects, as well as those effects, which are uncertain or not well understood and taken forward for assessment in accordance with the precautionary principle. The assessment should seek to establish whether or not the plans effects, either alone or in combination with other plans or projects, will lead to adverse effects on site integrity, in view of the site’s conservation objectives. Site integrity can be described as follows (ODPM, 2005b):

“The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified.”

4.5 The information provided in this document is required to assist and inform Medway Council LPA who are the competent authority and who need to identify if an AA is required for this development. They need to initially determine that the proposed development is not likely to have a significant effect on the SPA or the other designations alone or in combination with other developments.

4.6 Natural England guidance on determining likely significant effect states that;
“The ‘significance test’ is a coarse filter intended to identify which proposed plans and projects require further assessment. It is the first stage of the process, and is distinct from the appropriate assessment of ‘adverse effect on integrity’... Proposals having no, or de minimis, effects can be progressed without further consideration under the Habitats Regulations although reasons for reaching this decision must be justified and recorded” (English Nature, 1999).

4.7 The formal Appropriate Assessment is undertaken by the local authority, as competent authority for planning decisions. It is expected that the applicant will provide the information for the local authority to undertake this assessment.

Deciduous Woodland Priority Habitat

4.8 The site dominated by areas of woodland that are made up from some former nursery stock, self seeded hawthorn and blackthorn and scattered mature trees mainly around the edges of the woodland. The woodland on site, is classified as deciduous woodland which is a Priority Habitat under section 41 NERC Act.

4.9 Lowland mixed deciduous woodland includes woodland growing on the full range of soil conditions, from very acidic to base-rich, and takes in most semi-natural woodland in southern and eastern England. There is great variety in the species composition of the canopy layer and the ground flora, and this is reflected in the range of associated NVC and Stand Types. Quercus robur is generally the commoner oak and may occur with virtually all combinations of other locally native tree species. In this case English Oak (Quercus robur) is present around the edges of the site and is associated with a range of other native species.

4.10 Section 41 (S41) of the Natural Environment and Rural Communities (NERC Act 2006) requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) has been drawn up in consultation with Natural England and draws upon the UK BAP List of Priority Species and Habitats. Lowland deciduous
woodland is a UK BAP Priority Habitat. The habitats and species on the S41 list should be given ‘due regard’ as required under Section 40 of the NERC Act 2006, where decision makers exercise their normal functions. In essence, consideration of the conservation of such habitats and species must be made.

4.11 Several local planning policies are relevant in terms of the woodland and trees on site. It is recommended that some areas of the woodland are retained and enhanced as part of any development proposals on site, especially around the edges of the site to remain in line with policies BNE37 – Wildlife Habitats, BNE38 – Wildlife Corridors and Stepping Stones and BNE43 – Trees on Development Sites, which all seek to retain woodland and trees and wildlife habitats, corridors and green links.

Other Habitats

4.12 The semi-improved neutral grassland on site is relatively species poor and due to lack of management is becoming inundated with some ruderal species and encroaching scrub. It is considered to only be of limited ecological value at site level only.

4.13 There is potential for the site to support a range of protected species, which is discussed below.

Protected Species

Badgers

4.15 An active badger sett was found to be present in the western corner of the site along the site boundary with tunnels extending west beneath the adjacent railway embankment. At the time of the survey five large active holes were found to be present with large spoil heaps.

4.16 It is considered likely that the sett is a main breeding sett due to its size and the level of activity across the site such as numerous mammal paths and latrine posts.
4.17 The sett itself is located on the eastern edge of the red line boundary, located adjacent to the railway. As such the sett is well buffered from any potential development. However, it is recommended that at least a 20m buffer zone should be placed around the sett where no building or significant digging works can take place. This buffer should be incorporated into the design layout for the site and appropriate landscaping including fruiting trees and dense vegetation should be included/retained in this area.

4.18 Foraging habitat and commuting corridors for badgers are not legally protected, however, as badgers are protected for welfare purposes, how badgers move within the landscape and any consideration for significant loss of foraging habitat, must be made. Within the site it is recommended that woodland around the edges of the site are maintained within the scheme and enhancements are made to retained areas of more scrubby woodland habitat. Maintaining green edges around the site and enhancing habitats where possible, would ensure that badgers would be able to move across the site and into the wider landscape. The provision of new planting which would be an enhancement for badgers such as fruit trees, would provide a new food source for the badgers within the boundaries.

4.19 It is recommended that any excavations and trenches associated with construction are either covered at night or supplemented with a means of escape for any badgers that may fall into the excavation whilst foraging. Any open pipes or conduits laid should be blocked off each night to prevent badgers from entering them. If possible, construction work should only take place between dawn and dusk with no late evening work to reduce possible disturbance.

**Bats**

**Buildings & Trees**

4.20 None of the buildings within the red line boundary of the site were considered to have any potential for supporting roosting bat species due to their simple construction and lack of internal and external roosting opportunities. All of the buildings were considered to have ‘negligible’ potential to support roosting bats. The demolition of these buildings is not considered to be under any constraints from the presence of roosting bat species.
4.21 Several trees around the edges of the site and woodland areas were considered to have moderate potential for supporting roosting bat species due to the presence of dense ivy growth around the stems. The position of these trees is shown on appendix 1 – Habitat Map. It is recommended that these trees be retained within the scheme. If these trees are to be effected by arboricultural works then a suitably qualified ecologist should further survey the trees involving either climbing the tree with rope access and survey the trees for potential roost features with an endoscope or surveying from ground level using dusk or dawn surveys to assess the roosting potential.

**Commuting & Foraging Habitats for Bat Species**

4.22 The linear features on site, such as the boundary tree lines and woodland edges are considered likely to be used by commuting bat species. These linear features also provide ecological linkages to the wider landscape that are likely to be used by commuting bats. In terms of foraging habitat areas such as the rough grassland area considered to be of moderate quality foraging habitat for bat species.

4.23 The Bat Conservation Trusts document *Bat Surveys Good Practice Guidelines 3rd Edition*, Table 4.1 ‘*Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement*’ and Table 8.3 ‘*Guidelines on the number of bat activity surveys recommended to achieve a reasonable survey effort in relation to habitat suitability*’ the recommended survey effort is as follows. The site is considered to be of a mixture of lower quality habitat in terms of hard standing and commercial areas and better quality habitats such as rough grassland and woodland edges; therefore, it is recommended that further surveys for bats are undertaken.

4.24 As the proposals are at outline stage only, it is unclear of the extent to which the on-site habitats will be affected and to what scale. A large proportion of the site is comprised of a commercial area, with the well maintained grassland habitats also present, both being habitat of low value to bats. Provided development is largely restricted to these areas
and the boundary features are retained and suitably buffered from direct lighting, it is considered the impacts to foraging and commuting bats would be relatively low.

4.25 Considering the likely impact to the suitable site habitats and largely common distribution of the species likely to be using the site, in line with BCT survey guidelines, a single activity survey per season is recommended from spring to autumn. However, should the proposals involve the loss of significant numbers of trees and/or woodland/scrub, then additional surveys may be required. Similarly, if any of the spring season activity survey indicate the presence of rarer species such as barbastelles and/or a significant diversity of bats species using the on-site habitats, then additional surveys may be required.

4.26 Activity transects should be undertaken in suitable conditions between April to October in suitable weather conditions. It is also recommended that static recording devices be left on site once per season for five consecutive nights between the months of April to October. These devices should be placed on habitat features considered suitable for commuting and foraging bats that are likely to be impacted by the proposals.

4.27 Any proposed lighting scheme as part of the development will have to take into account bats in the surrounding area as well as the site. All bat species are nocturnal, resting in dark conditions in the day and emerging at night to feed. Bats are known to be affected by light levels, which can affect both their roosting and foraging behaviour. This needs to be taken into account with a sympathetic lighting scheme. Recommendations include:

- Installing lighting only if there is a significant need;
- Using low-pressure sodium lamps or high-pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics;
- Directing light to where it is needed and avoiding light spillage;
- Using baffled lighting where light is directed towards the ground;
- Avoid putting lighting near treelines or woodland edges and angling light away from these linear features which are used by commuting and foraging bats;
• Planting a barrier or using man-made features required within the scheme to form a barrier.

4.28 To enhance the local bat population and provide roosting opportunities, it is recommended that boxes should be hung on mature trees or buildings around the site. Recommended boxes include:

• Schwegerl 2F Bat Box – These boxes are attractive to small bats such as pipistrelles and long-eared bats and can be hung on trees (Figure 4).
• Schwegerl 2FN Bat Box – This is slightly larger than the 2F and provides opportunities for the larger bats such as noctules. These should be hung on mature trees.
• Schwegerl 1FD Bat Box - This box has been designed specifically for smaller bats and provides opportunities as a maternity roost (Figure 4).

Figure 4: Schwegerl 2F (left) and 1FD (right) bat boxes

4.29 Incorporating specially designed bat boxes into the design can enhance the habitat on site for bats. Suitable bat boxes include a variety of wooden bat boxes, such as an improved cavity box, a double chamber bat box and other wood based varieties. Schwegerl boxes have been recommended as these are long-lasting and require no maintenance.

Dormice
4.30 The site is dominated by areas of dense broadleaved woodland, which are considered to be optimal habitat for supporting hazel dormice due to the presence of a variety of food sources and optimal vertical stratification. However the site is isolated from other areas of woodland and indeed there are no records of hazel dormice within 2km of the site.

4.31 As it is likely that areas of the woodland will be removed and potential indirect impacts resulting from a localised increase in residential pressure would occur post development, it is considered that a hazel dormouse survey is necessary across the site. Nest tubes will be installed within the woodland and then checked every month for evidence of dormice such as nests. Each month of the year is given a score of suitability. A survey effort adding up to a score of 20 will be required over the course of year in order to achieve suitable survey effort.

4.32 If dormice are found to be present within the woodland blocks then consideration for the layout and proposals would have to be made to ensure that the proposed development would be licenced under Natural England. In order for a licence to be granted the proposals must ensure that the favourable conservation status of dormice would be maintained within the local area.

**Great Crested Newts**

4.33 There are no ponds on site within the red line boundary and only one pond present within 250m of the site that is not present behind significant barriers to dispersal.

4.34 The pond was adjacent to the boundary of the site along side the current access track. The pond scored an HSI rating of ‘poor’ for its suitability for supporting GCN. The pond did not support egg laying opportunities, was small, isolated from other ponds and supported a dense population of fish. Therefore, due to the lack of suitable ponds within 250m of the site, the lack of suitable breeding ponds on site, it is considered unlikely that GCNs are present on site and no further surveys are recommended.
Reptiles

4.35 The area of rough grassland within the northern area of the site is considered to optimal habitat for reptile species such as slow worm (*Anguis fragilis*) and common lizard (*Zootoca vivipara*). This is due to the long sward and dense tussocky composition. Other features suitable for supporting reptile species during their hibernation phase such as brash piles and dense scrub.

4.36 It is illegal to intentionally disturb habitats occupied by common species of reptile, as they are fully protected under the Wildlife and Countryside Act 1981. As the areas of tall grassland and ruderal mosaic have been highlighted as potential reptile habitats. It is recommended further survey work be undertaken prior to any clearance works. Proposed surveys will involve positioning artificial refugias (roofing felt mats) within the areas of suitable habitat along the site edges and in proximity to existing refugia such as the log piles. The mats warm up using the suns energy, which reptiles can often be found warming up under before foraging. The mats should be put in place between late March – early September, one week in advance prior to starting the surveys to allow the mats to bed in to the grassland and ruderal. The mats should then be checked on seven different visits under suitable weather conditions to assess presence/absence and current population counts.

Other species

4.37 Breeding birds are likely to use the trees, shrubs and scrub on site. It is recommended that any vegetation removal be undertaken outside of the breeding bird season (March-September) or immediately after a nesting bird check by a suitably qualified ecologist. If active nests are identified, works in the vicinity of the nest must cease until the birds have fledged the nest.

4.38 It is recommended that a breeding bird survey be carried out across the site due to the potential for habitat loss on site.
4.39 There are no suitable habitats present on site that could support water vole, otter or white-clawed crayfish.

4.40 The invasive species giant hogweed was potentially identified within the site. In compliance with the Wildlife and Countryside Act, it is the landowner’s responsibility to remove the species from the site to prevent further spread, it is therefore recommended a giant hogweed specialist is consulted.

4.41 Tree-lines and areas of broadleaved woodland on the boundaries of the site and the numerous piles of stacked wood within the site have potential to support stag beetles, particularly where significant amounts of standing and fallen deadwood is present. It is therefore recommended that areas of standing and fallen deadwood are left in situ and soil around these areas of deadwood remain undisturbed, where possible.

4.42 As adult stag beetles lay their eggs within deadwood and the surrounding soil, it is recommended that if evidence of stag beetle use is found areas of existing deadwood and the surrounding soil are left undisturbed, if possible. Furthermore, existing deadwood may be supplemented with log piles or loggeries that are allowed to rot naturally providing additional habitat suitable for egg laying (see Figure 5 below).

![Figure 5. Loggeries and Artificial Breeding Boxes](image)
4.43 Should it be necessary to remove any areas of existing fallen deadwood, it is recommended that these be carefully removed by hand and replaced within areas associated with the habitat edges of the site.

**General Site Enhancements**

4.44 A number of enhancements can be made to the final development to help reduce potential ecological impacts. It is important to utilise native species of local provenance in landscaping schemes to enhance the ecological value of a development.

4.45 It is recommended that areas of the woodland on site be retained to maintain habitat and ecological connectivity and green corridors around the site. It is also recommended that additional tree planting be carried out along the boundaries of the site to enhance green corridors and provide additional habitat in line with local planning policy. Species of value to wildlife should be used including oak (*Quercus* sp.), ash (*Fraxinus excelsior*), hazel (*Corylus avellana*), beech (*Fagus sylvatica*), wild cherry (*Prunus avium*), apple (*Malus* sp.), field maple (*Acer campestre*), elder (*Sambucus nigra*), hornbeam (*Carpinus betulus*), rowan (*Sorbus aucuparia*), hawthorn (*Crataegus monogyna*) and yew (*Taxus baccata*).

4.46 It is understood that some of the more scrubby areas of woodland are likely to be lost within the redline boundary. It is considered that a long term woodland management plan should be development alongside the arboriculturalist, to enhance the retained woodland on site. This woodland could be significantly enhanced with management such as coppicing, thinning and creation of rides and additional species planting. A well developed woodland management plan, creating a species rich, diverse woodland would see the retained woodland being of higher value than what is currently present on site.

4.47 Log piles can be placed in suitable areas on site, which will create habitat for hedgehogs, reptiles, amphibians, small mammals and a diversity of saproxylic invertebrate species.
4.48 Nest boxes should be installed in order to provide new nesting opportunities for birds and to achieve ecological enhancements in line with policies set out by the local planning authority. These can be hung on the buildings or surrounding mature trees post-development. Recommended boxes include:

- Schwegler 1N Deep Nest Box – give added nest protection from predators
- Schwegler 1B Bird Box – general purpose bird box, suitable for many species
- Schwegler Bird House – This is suitable for all common garden birds and may be attached to a building or wall so is suitable for sitting behind climbing plant.

5.0 Conclusions

5.1 The site does not lie within any statutory or non-statutory designations. However, the Medway Estuary and Marshes SPA, SSSI and Ramser site lies only approximately 0.7km north east of the site. It is considered that there will be no direct impacts on the designated site by a development but indirect impacts such as increase visitor pressure due to an increase in local population.

5.2 The majority of the habitats on site are common and widespread throughout the local area and the UK as a whole. The site is dominated by Deciduous Woodland Priority Habitat, which although is made up of semi-mature specimens is still considered to have ecological value. It has been recommended that areas of the woodland be retain and enhanced as part of any development on site.

5.3 The buildings on site were considered as having negligible potential for roosting bat species. Demolition of the buildings is not considered to be under any constraints from roosting bat species and no further surveys are recommended.

5.4 Several trees around the site were considered to have moderate potential for supporting roosting bat species. It is recommended that these trees be retained on site. If arboricultural works the further investigations by a suitably qualified ecologist via rope access should be undertaken.
5.5 The site is considered to have moderate quality for commuting and foraging bat species. Further transect activity surveys have been recommended for the site including static recordings.

5.6 A main badger sett was found to be present in the western corner of the site along the boundary with the railway line. A 20m buffer around the sett has been recommended along with further welfare recommendations within this report.

5.7 The woodland on site was considered to be optimal habitat for supporting hazel dormice. A presence/likely absence survey is recommended.

5.8 The area of rough grassland in the northern area of the site is considered to be optimal habitat for supporting common reptile species. A presence/likely absence survey is recommended.

5.9 The site is not considered likely to support GCNs, white-clawed crayfish, water voles or otters and no further surveys for these species are recommended.

5.10 Nesting birds may use the trees and shrubs on site. It is recommended that clearance work on site be undertaken outside of the breeding bird season (March-September inclusive) or immediately after a nesting bird check by a suitably qualified ecologist.

5.11 Recommendations for enhancements have been made within this report, aimed at improving the ecological value of the site post-development.
6.0 References


*Internet resources:*

Google Maps: www.google.co.uk/maps
Magic Interactive Map: www.magic.gov.uk
Appendix 1: Phase 1 Habitat Map
Appendix 2: Photographs
<table>
<thead>
<tr>
<th><strong>Photograph 1:</strong></th>
<th><img src="image1" alt="Image" /></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pond 1 – Ornamental pond adjacent to the site boundary</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Photograph 2:</strong></th>
<th><img src="image2" alt="Image" /></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deciduous woodland</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Photograph 3:</strong></th>
<th><img src="image3" alt="Image" /></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rough semi-improved grassland with individual trees and shrubs</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Photograph 4:</strong></th>
<th><img src="image4" alt="Image" /></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allotment area</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Photograph 5:</strong></th>
<th><img src="image5" alt="Image" /></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Badger latrine post</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Photograph 6:</strong></td>
<td>Railway embankment with badger sett</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td><strong>Photograph 7:</strong></td>
<td>Large active badger sett entrance</td>
</tr>
<tr>
<td><strong>Photograph 8:</strong></td>
<td>Scrub covered earth bunds</td>
</tr>
<tr>
<td><strong>Photograph 9:</strong></td>
<td>Improved grassland archery range</td>
</tr>
<tr>
<td><strong>Photograph 10:</strong></td>
<td>Nursery entrance</td>
</tr>
</tbody>
</table>
**Photograph 11:**
Commercial area
Appendix 3: Biological Records Summary – Full records available on request
This report was compiled using data held at KMBRC at the time of printing. The KMBRC takes data validation seriously but cannot be held responsible for the accuracy of the data included in this report.

Enclosed within this report is the following information specific to the enquiry site:

- Protected Species Inventory (✓)
- Kent Rare and Scarce Species Inventory (✓)
- Conservation Concern Species Inventory (✓)
- Invasive Species List (✓)
- SSSI Risk Zones map and report (☐)
- Bird List (✓)
- Bat List (✓)
- Bat Roost Map (✓)
- Designated Areas Map (✓)
- Kent Habitat Survey Map (☐)
- Biodiversity Action Plan Habitat Map (☐)

Bespoke Reports: