Preliminary Ecological Assessment

At:

Clifton farm
Main Road
Knockholt
TN14 7NT

For:

ReModern Ltd

Private and Confidential

Ref: 4294 21 07 28 Rpt 01 Rev 01 CA PH

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Executive Summary

EHM Ltd has been commissioned to carry out an extended Phase I survey of a property located in Knockholt, Kent. This report will provide an assessment of the site reporting on the current conditions of the habitats present and their potential to support protected and notable species.

The site is located on the edge of the Kent village of Knockholt located on the Downs. The site covers an area of approximately 1500m2 dominated by grassland habitats with a large concrete slap. The site is located within a woodland area and borders designated ancient woodland. The site is in a rural area dominated by woodland and agricultural land with residential properties dotted about. The wider landscape is rural in nature. There local landscape is dominated by a mixture of agricultural land with a patch work of woodland. The site is located within the M25 in the North West park of Kent located close to the Kent Downs Area of Outstanding Natural Beauty (AONB). The site (as shown on figure 1) is located in Knockholt TQ 4593 5829.

Protected and Notable Species

Species	Sites potential to support
Bat roosts- trees	Low
Bat foraging/ commuting areas	High
[redacted]	
Small Mammals	Moderate
Reptiles	Moderate
Common Amphibians	Low
Great Crested Newts	Low
Breeding birds	Moderate.
Invertebrates	Low
Plants	Low

Recommendations

Recommendation	Action
Protection of breeding birds	Carry out vegetation clearance (if required) outside of breeding bird season or under supervision of ecologist following a breeding bird survey
Appropriate lighting for bats	Avoid illuminating bat foraging and commuting habitat- adjacent woodland. During and post development.
[redacted]	
Reptile Survey	Conduct 7 reptile survey using artificial refugia.
Tree protection	Install adequate root and crown protection if necessary.
Protection of Woodland	Insure adjacent woodland habitats are protected during development.
Adequate pollution control	Habitats on site and in wider area should be adequately protected to ensure no polluted runoff in on site or adjacent land. All oils, fuels and chemicals should be adequately stored on site in bunded contains with appropriate spill kits and emergency procedures in place.
Inclusion of bird and bat boxes in the landscaping	Place boxes in suitable locations in the grounds.
Use of native plant species during any future planting and landscaping.	Where possible select native tree and plant species in any future landscaping. Add log piles to garden habitats.

1. Introduction

EHM Ltd has been commissioned to carry out an extended Phase I survey of a property located in Knockholt, Kent. This report will provide an assessment of the site reporting on the current conditions of the habitats present and their potential to support protected and notable species.

1.1. Development outline

EHM Ltd understands that the development comprises of erecting a new residential dwelling on the site.

1.2 Site Description

The site is located on the edge of the Kent village of Knockholt located on the Downs. The site covers an area of approximately 1500m^2 dominated by grassland habitats with a large concrete slap. The site is currently bordered by temporary Harris fencing. The site is located within a woodland area and borders designated ancient woodland. The site is in a rural area dominated by woodland and agricultural land with residential properties dotted about.

The wider landscape is rural in nature. There local landscape is dominated by a mixture of agricultural land with a patch work of woodland. The site is located within the M25 in the North West park of Kent located close to the Kent Downs Area of Outstanding Natural Beauty (AONB).

The site (as shown on figure 1) is located in Knockholt TQ 4593 5829.

2. Methods

2.1. Site Visit

EHM undertook a site visit on the 14th of July 2021. This was to carry out a walk over of the site, determining the basic habitats present and their current condition. The potential for these habitats to support protected and notable species was also recorded. The site visit was carried out by an experienced ecologist who is able to appropriately identify habitats and assess their quality and suitability to support species.

The methodology followed that of an Extended Phase 1 Habitat Survey following the methodology of JNCC (1993) as modified by IEA (1995). The Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are likely to be ecologically important.

2.2 Protected Species

The following evidence of protected species or habitats to support them was assessed;

[redacted]

Bats

The site was assessed for its potential to support:

- Roosting bats; and
- Foraging and commuting bats.

Features which could indicate a potential bat roost include:

- Holes and fissures in trees; and
- Gaps in buildings that could allow access to areas such as roof voids, e.g. holes in soffits, broken, lose or missing tiles, damaged lead flashing, etc.

The methodology for assessing bat roost potential followed that recommended by the Bat Conservation Trust[1].

[1] Collins, J. (ed) (2016). Bat Surveys for professional Ecologists; Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Breeding birds

The site was assessed for its potential to support nesting and breeding birds, considering factors including sufficient habitat cover and food sources.

Dormice

The site was surveyed for suitable dormouse habitat, such as the presence of a well-connected understorey broadleaf habitat, and suitable food sources such as hazel, oak and other nut-bearing trees, fruiting trees and shrubs, flowers and invertebrates. Where hazel nut shells were found, these were inspected for evidence of dormouse feeding.

Aquatic mammals

Aquatic habitats were assessed for their potential to support aquatic mammals such as Otter or water vole. Signs including; foot prints, droppings and evidence of feeding where searched for.

Reptiles

The site was assessed for its potential to support reptile populations. Suitable habitat for reptiles includes long grass, scrub, woodland and hedgerow borders and wood/rubble piles that act as hibernacula.

Amphibians

Any aquatic habitat was assessed for its potential to support amphibian species, including Great Crested Newts. Any ponds on site were assessed, using the Habitat Suitability Index, for its potential to support Great Crested Newts. Terrestrial habitat was also accessed for its ability to support amphibians.

Other species

The site was assessed for its potential to support other notable species.

2.3 Desktop study

In conjunction with the site visit a report was compiled of relevant ecological records within 1 km of the site. This provided details of protected and notable species in the area which will help inform the potential of the site to support such species. The report from the Kent and Medway Biological Records Centre (KMBRC) also provides details of protected sites within a 1 km radius of the site. Magic.gov.uk was reviewed for additional relevant protected species and habitat information.

2.4 Limitations

The contents of this report are based on a single site visit and a search or the local records bureau. Though the survey and interpretations of the data were carried out by a competent ecologist there may be things that have been overlooked or missed.

2.5 Relevant Legislation and Planning policies

A full list of UK wildlife legislation and designations can be seen in the appendix. Relevant legislation implications for this site include;

- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way Act 2000;
- The Natural Environment and Rural Communities Act (NERC Act) 2006;

Planning policies, both local and national, may affect any proposed development. Relevant planning policies to this development include;

- National Planning Policy Framework (NPPF)
- Local biodiversity policy

3. Results

3.1 Habitats

The location and extent of the habitats are shown in figure 1. TN refers to a target note and the habitat codes refer to the Phase I habitat classification. CIEEM guidance recommends that the value or potential value of an ecological resource or feature should be determined within a defined geographical context[2]. It recommends the following frame of reference;

- International;
- UK;
- National (i.e. England/Northern Ireland/Scotland/Wales);
- Regional;
- County (or Metropolitan - e.g. in London);
- District (or Unitary Authority, City, or Borough);
- Local or Parish;
- Site; and
- Within zone of influence only (of habitat).

The habitats will be assessed based on these criteria.

Improved Grassland (B4)

The site is dominated by an area of improved grassland. This was dominated by Bent grass with bramble (*Rubus fruticosus*), nettle (*Urtica dioica*), Sedge (*Carex sp.*), Hedge Woundwort (*Stachys sylvatica*) and clover (*Trifolium sp.)* also present with occasional patches of bracken (*Pteridium aquilinum*). This grassland contained some structural diversity and contained a long varied sward, which could attract protected or notable species.

A large overgrown rubble pile was noted in the grass land (TN2) as was an excavated ditch which was damp at the bottom (TN3). These small features add to the structural diversity of the habitat and increase its attractiveness to certain species. The grassland is considered as having a benefit at a site level.

Mixed Scattered Trees (A3.3)

The site contains some Oak (*Quercus robur)* trees within the grassland habitat and on the edge of the site (TN1). These are located on the edge of the grassland and closer to the concrete slab. These are semi mature in nature and have potential to support protected species. The scattered trees provide some additional connectivity across the site. They are considered as having an importance at a site level.

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[2] GUIDELINES FOR ECOLOGICAL IMPACT ASSESSMENT IN THE UNITED KINGDOM. IEEM. June 2006.

Bare Ground (J4)

A large concrete slab dominates the site. This contained a number of cracks with ragwort (*Senecio* jacobaea) and Nettle growing through them. The bare ground is considered as having an importance at a zone of influence level.

Other

The site is bordered by Broad leaved semi-natural woodland which though outside of the site boundary is potential within the development zone of influence. This woodland is designated as priority woodland and is in part ancient woodland (discussed below). This woodland is considered as having an importance at a local level.

Summary

The table below summaries the habitats on site and their value within a geographical context.

Habitat	Value	Comments
Improved grassland	Site	Grassland area with good structural diversity may support protected and notable species.
Scattered Trees	Site	Scatted Oak trees that may support protected species.
Bare Ground	Zone of Influence	Large concrete slab with Ragwort growing through cracks.

Table 1: Summary of value of habitats present on site.

3.2 Species

A recent biological record bureau search from SxBRC produced some records of protected and Species of Conservation Concern (SoCC) within 1 km of the site. Additionally the Natural England resource; Magic map[3], was consulted for any granted protected species licences that may be in the area.

Table two below summarises the key species groups and protected areas within these results. A full list of the species can be seen on request.

Protected species are those listed on EC Habitats Directive- Annexes II and IV, EC Bird Directive- Annex I, Conservation (Natural Habitats) Regulations 1994- Schedules 2 & 5, NERC 2006 Section 41, Wildlife and Countryside Act 1981 (as amended_-Schedules 1, 5 & 8, Protection of Badgers Act 1992.

Notable species are categorised as being a: BAP priority National, Red list species (not least concern) and or Red status bird species, Red Data Book Species, NERC species. Legislation and BAP designation are explained in the appendix.

Group	Number
Sites and Habitats	
Statutory sites	Absent
Non Statutory sites or Local Wildlife Sites	Present
Ancient Woodland	Present
Priority Habitats	Present
Protected and Notable Species	
Bat Species	9 species
Other Mammals	3 species
Birds	91 Species
Invertebrate Species	4 Species
Plant Species	17 Species
Reptile and Amphibians	4 Species

Table 2: Summary of protected areas and species information

Bat Commuting/ Foraging Habitat

The protected species licencing information from the Magic map produced protected species licenses for bat species within 1 km of the site. One appears to be located within the 100m of the site to the east. Other granted licences for bats are shown within 2 km of the site to the east and south east. The KMBRC data includes bat records supplied from the Kent Bat Group (KBG) which includes a number of species within proximity of the site. Species include; Serotine (*Eptesicus serotinus*), Natterer's Bat (*Myotis nattereri*), Noctule (*Nyctalus noctula*), Pipistrelle (*Pipistrellus pipistrellus*) and Brown Long Eared Bat (*Plecotus auritus*). The KBG data also includes a bat roost map which shows identified roosts, including maternity roosts, within 1 km of the site to the east and south west of the site.

All bat species in the UK eat insects and forage along habitats such as hedgerows, woodlands, grasslands and waterways[4]. Bats use woodland edges, hedgerows, rivers and other linear features like tree-lined footpaths as corridors to commute from one area of countryside to another[5]. The woodland edge and grassland on or near the site provides suitable commuting and foraging opportunities. The site has excellent links to the wider landscape and it is probable that bats are in the wider landscape. The presence of foraging/ commuting habitat is considered **high.**

Bat roosts

As discussed bats are predicted to be within the vicinity of the site and may use habitats on site for foraging and commuting.

The trees on site were assessed for any Potential Roost Features (PRFs). The bat conservation trust provides information regarding features that may be present in trees that bats could potentially use for roosting[6]. All the trees on site were subject to a Ground Level Roost Assessment (GLRA) using binoculars and a powerful torch. The Oak trees (TN1) contained small PRFs such as rott holes, flaky bark or limb damage. The potential for the trees to contain a bat roost is considered **Low.**

[redacted]

Dormouse

No evidence of dormice (*Muscardinus avellanarius*) activity, such as feeding remains or nests was observed on site. Across its range dormice prefer the successional stage of woody

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[4] https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/foraging-habitats
[5] https://www.bats.org.uk/about-bats/where-do-bats-live/bat-habitats/commuting-habitats
[6] http://www.bats.org.uk/pages/bat_roosts.html#TreeRoosts

vegetation; this is the new growth that arises after woodland management such as coppicing, ride widening, thinning or glade creation, they may also occur in scrubby habitat[7]. No evidence such as nests and chewed nuts were noted on site and the habitats on the site are unlikely to support this species. The woodland bordering the site may provide some suitability for this species; there are no local records of this species.

The potential for the site to support Dormouse is considered **negligible.**

Small mammals

Hedgehogs (*Erinaceus europaeus*) prefer habitats such as woodland edges and hedges as well as suburban areas[8]. The woodland edges and grassland habitats provide some suitability for this species, though there are no local records of this species it is possible hedgehog are present. Fox (*Vulpes vulpes)* droppings were noted on site. The potential for small mammals to be on site is considered **moderate.**

Reptiles

Reptiles prefer sites with a diversity of habitats containing a number of micro habitats that provide suitable foraging and refuge sites[9]. The structured grassland and rubble heap (TN3) provide suitability for reptiles to forage and there are potential basking opportunities. The local records data contains records of reptile species such as Slow-worm (*Anguis fragulis)* and grass snake (*Natrix Helvetica*) though these are a number of decades old. It is possible that reptiles are within the local area, but under-recorded, the site contains suitable habitat and has connectivity to the wider landscape. The likelihood of reptiles being present is considered **moderate.**

Amphibians

The European protected species Great Crested Newt (*Triturus cristatus*) require both suitable aquatic habitats for breeding and terrestrial habitats to forage and shelter during the active season and hibernate over winter[10]. There are no records of GCN within the KMBRC data or on the magic map. There are no aquatic habitats on the site the OS map shows a pond to the south approximately 230m away at Hazlett Wood Farm, this is partially fragmented by a road. The terrestrial habitats on site have some potential to support GCN, the potential for GCN to be on site is considered **Low.**

Records of common amphibians are included in the local records data; Common Toad (*Bufo bufo)* and Common Frog (*Rana temporaria*). There are recent records to the north of the site within 800m at the area marked as Shellys. The site has some suitable terrestrial habitats and

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[7] https://ptes.org/get-informed/facts-figures/hazel-common-dormouse-muscardinus-avellanarius/
[8] http://www.mammal.org.uk/sites/default/files/factsheets/hedgehog_complete_0.pdf
[9] Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and reptile Conservation, Bournemouth
[10] Great crested newt mitigation guidelines. August 2001. English Nature.

there is connectivity to the wider landscape. The likelihood of common amphibians being present is considered **low**.

Birds

The site contains suitable habitat for nesting birds, all bird nests are protected whilst they are in use. The trees provide opportunities for nesting birds. The site's potential to support breeding birds is considered **moderate**.

The local records data includes a number of records of notable bird species. This includes species such as Green Woodpecker (*Picus viridis*), Wren (*Troglodytes troglodytes*), Robin (*Erithacus rubecula*), Song Thrush (*Turdus philomelos*) and blue tit (*Parus caeruleus*) which may be present on site. The presence of notable bird species is considered **moderate.**

Plants

The KMBRC data contained some records of notable plant species including; Blue bell (*Hyacinthoides non*-scripta) as well as a number of Orchids such as Common-Spotted Orchid (*Dactylorhiza fuchsia)* and Butterfly Orchid (*Platanthera chlorantha x bifolia= P. x hybrid*). It is possible the site supports notable species, in particular Bluebell. The likelihood of bluebell being present is considered **low.**

Invertebrates

The KMBRC data includes records of notable invertebrates including butterflies such as Dingy Skipper (*Erynnis tages*) and Small health (*Coenonympha pamphilus*). Some of these are located within 1 Km to the west of the site within woodland. It is possible the habitats on site attract notable invertebrates such as this. The likelihood of notable invertebrates being on site is considered **Low.**

3.3 Summary

Table 3 below summarises the sites potential for protected and notable species. Designations for potential are as follows;

- High- Definite signs of species identified on site and habitat considered suitable
- Medium- habitat considered suitable but obvious signs not necessarily detected
- Low- no obvious signs and habitat considered sub-optimal. Though species may be present
- Negligible- highly unlikely that species is present

Species	Sites potential to support	Justification
Bat roosts- trees	Low	All trees were inspected for potential roost features. Two oak trees on the site and bordering the site contained small features than may support bat roosts.
Bat foraging/ commuting areas	High	Suitable commuting and foraging habitat in the form of the scattered trees, woodland edge and grassland. Good connectivity across the landscape and there are records of bats within the local area.
[redacted]		
Dormice	Negligible	No suitable habitat on site though possible the bordering woodland may provide suitable habitat.
Small Mammals	Moderate	The grassland habitat, and proximity to woodland, provides suitability for small mammals. Fox droppings were noted on site.
Reptiles	Moderate	Suitable habitat on site to support reptiles with connectivity to wider areas. .
Common Amphibians	Low	Terrestrial habitats provide some suitability for these species. Some ponds within local area.
Great Crested Newts	Low	No suitable aquatic habitats on site though some ponds in local landscape. Terrestrial habitats provide some suitability for this species and there is connectivity across the local landscape.
Breeding birds	Moderate.	There are areas on the site that could support breeding birds. In particular the trees on site.
Invertebrates	Low	The habitats on site could support local notable invertebrate species.
Plants	Low	Notable plant species are noted in the local area site has some potential to support species such as native Bluebell.

Table 3: Summary of sites potential to support certain protected and notable species.

3.4 Protected Areas

Statutory protected Areas

The site is within proximity of the Kent Downs Area of Outstanding Natural Beauty (AONB).

Non statutory protected areas

A Local Wildlife Site (LWS) is located to the south east of the site. This is called; Chevening Estate (SE49) and appears to cover an area of ancient woodland.

Priority Habitats

There are areas designated in the Priority habitat Index (PHI) within proximity of the site. The woodland bordering the site is designated as deciduous woodland on the PHI. The border of this priority habitat on the magic map is difficult to define in relation to the site. It appears that part of this habitat designation includes part of the site though no woodland habitat is evident on the site. The area of the former building and some of the grassland is evidently not within the PHI designation. The woodland bordering the site to the north and the east is also designated as Ancient semi-natural woodland (called Knockholt wood) as is woodland to the west of the site

A map of the location of the protected areas is available in the appendix.

4 Predicted Development Impacts

The below is a summary of potential impacts on protected and notable species to help provide suitable recommendations for additional surveys and mitigation as necessary.

The proposed development as shown on figure 2 shows the development of a single residential building on the site. This will likely involve the disruption to the grassland and bare ground habitats.

5 Discussion and Recommendations

The conclusions and recommendations below are derived from the findings of the survey and desktop study.

5.1 Habitats

Woodland

The development will be carried out within proximity of woodland habitats, including Ancient woodland. Though direct impacts are unlikely measures should be in place to ensure adequate protection such as rot and crown protection of trees on the woodland edge. The existing Harris fencing may well be providing this. All construction personnel and materials should be excluded from the woodland areas.

Improved grasslands

The grasslands will likely be impacted. This habitat has some potential to support protected species such as reptiles. To avoid impacting protected species additional surveys are recommended (see below).

Scattered Trees

It is recommended that the trees on site be retained and that they have adequate root and crown protection where appropriate. If trees are required to be felled then this should be done using a soft fell methodology (set out below) or following additional bat roosts assessments.

General protection measures

To avoid indirect impacts to wider habitats it is recommended that adequate pollution control measures be taken during construction. This should include;

- Suppression and monitoring of dust where relevant.
- Control sources of aquatic pollution, particularly from entering local water courses or ground water.
- All proposed work must strictly be in accordance with all relevant Pollution Prevention Guidelines (PPG) published by the Environment Agency which may include but is not limited to PPG1 (general), PPG5 (works in, near, or liable to affect watercourses) and PPG6 (work at construction & demolition sites). Contingency plans should be drawn up to address chemical spillage, collision, etc.

5.2 Species

Bats

Lighting can adversely impact bats; research has indicated that bats avoid well-lit areas as it impairs their night vision, which despite common misconception they use as well as echolocation to see their environment and prey[11]. Guidelines provided by the Bat Conservation trust should be followed[12] during construction to avoid unnecessary illumination.

The following actions to protect potential bat roosts are recommended;

- Avoid illuminating the wider habitats on site, particularly the mature trees and woodland edge, at dusk or night time- Guidelines provided by the Bat Conservation trust and ILP should be followed[13]
- Limit work to daylight hours
- Limit noise disturbance and other forms of pollution such as dust
- Maintain the wider habitats on site
- Lighting should also be considered post-development with any external lighting positioned so as not to illuminate potential foraging or commuting habitats.

The majority of the potential foraging/ commuting habitat will likely be retained on site. Additional planting could be used to increase the foraging and commuting habitat on site and bat boxes could be included within the landscaping.

If any trees to be removed with a low bat roost potential should be soft felled. This will involve cutting and carefully lowering sections of the tree to the ground. Core wood should be stacked on site outside of the development area. Prior to the tree being felled bat boxes should be erected in an area of retained landscaping.

In the unlikely event that a bat is discovered during works all work should be stopped and an ecologist consulted.

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[11] Fure (2006), Bats and lighting, The London Naturalist, No. 85, 2006
[12] http://www.bats.org.uk/pages/bats_and_lighting.html
[13] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

[redacted]

Reptiles/ amphibians

The habitats on site are considered as having potential to support reptiles; reptiles are protected from recklessly injuring or killing under UK law. Updated reptile surveys are recommended these should follow relevant guidelines[14]; conduct 7 surveys to establish presence/ absence of reptiles using artificial refugia. Surveys should be conducted in suitable weather between April and June and/ or August and September. If reptiles are detected then a translocation plan may be required.

Though recommendations may change following the results of the reptile survey it is recommended that the grassland and tall ruderal habitat be cut down in stages to reduce harm to reptiles and amphibians;

Stage 1

The vegetation will need to be reduced to a height 150-200mm using hand tools (e.g. strimmers). It is recommended that cutting commences in the centre of the site, radiating outwards to allow any remaining animals to escape. All potential refugia such as log or rubble piles should be removed by hand to outside of work area.

Stage 2

[14] Frog life Advice Sheet 10 (1999)

After a period of at least two days has passed a second vegetation cut should be undertaken to ground level. Again, it is recommended that this second-stage cutting commences in the centre of the site, radiating outwards towards the retained grassland. All cuttings to be removed from work area. The grassland areas can then be completely cleared and worked upon as necessary.

Any log/ brush piles should be moved carefully by hand outside of the work area.

Birds

To ensure breeding birds are not impacted any buildings, trees or shrubs that may require removal should be removed outside of the breeding bird season, this typically runs from March to September. If vegetation/ buildings require removal during the nesting bird season the area should be subjected to a survey by an experienced ecologist. If there are any nest sites located within the work area a suitable exclusion zone will have to be established until the chicks have fledged. All bird nests are protected in the Wildlife and Countryside Act (see appendix).

5.4 Potential Enhancements

Native tree and flower planting should be used to provide additional habitats, native hedgerow planting could provide additional bat foraging and commuting habitats as well as screening the new building. Bird and bat boxes could be added to the landscaping. Log piles or piles could be added to the garden areas to provide a benefit for invertebrates, reptiles and amphibians.

5.5 Summary of Recommendations

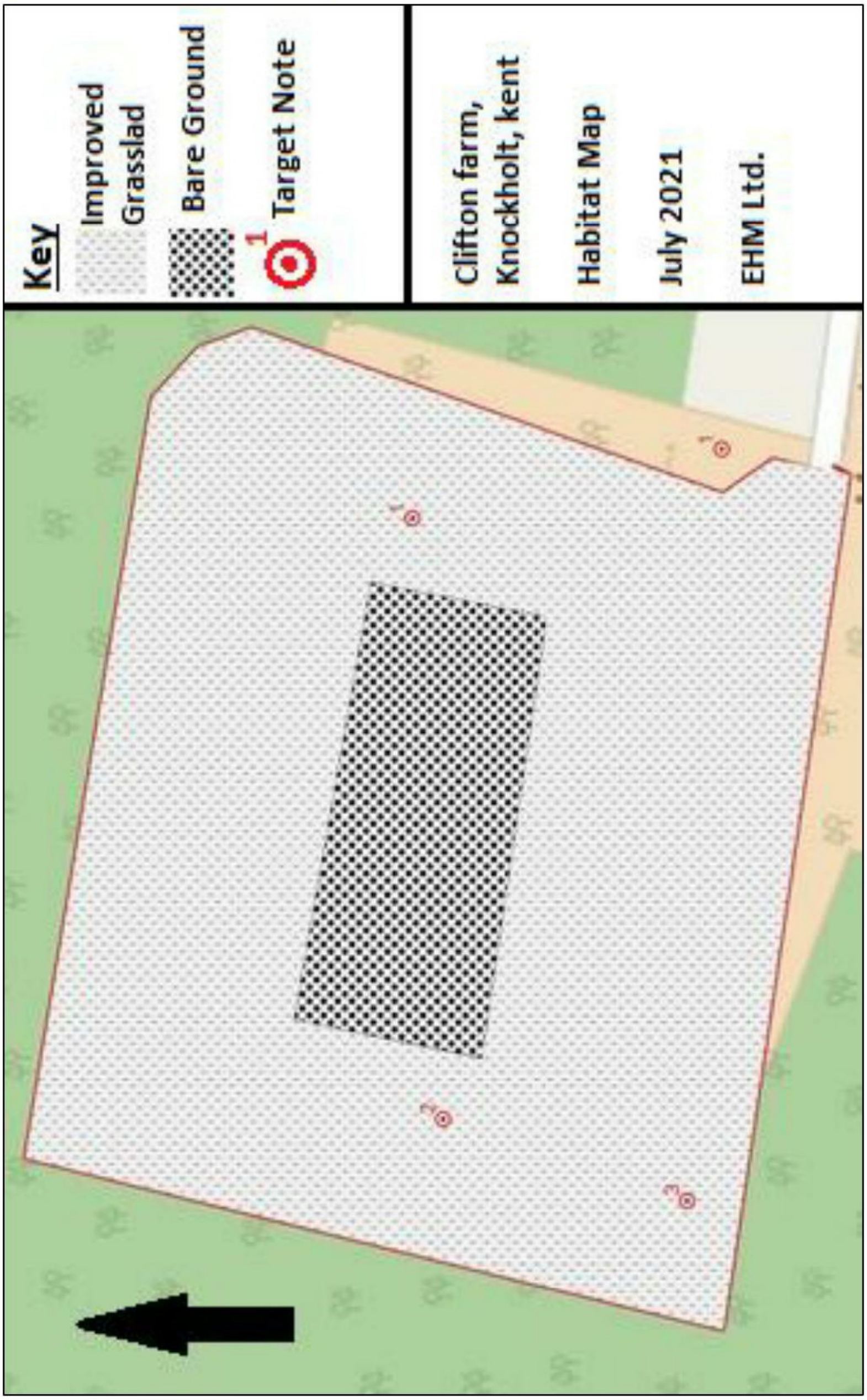
The recommendations are made in reference to protected/ notable species, ensuring the construction is compliant, and to ensure features that are likely to be providing an ecological resource are protected. These recommendations are prescribed following the information gained during the site visit and desktop study. These recommendations are not intended as an exhaustive list but those that are reasonable with the information available.

Recommendation	Action	Justification
Protection of breeding birds*	Carry out vegetation clearance (if required) outside of breeding bird season or under supervision of ecologist following a breeding bird survey	The established vegetation is likely providing several opportunities for breeding birds.
Appropriate lighting for bats*	Avoid illuminating bat foraging and commuting habitat-adjacent woodland. During and post development.	This will help limit disturbance to bat species in the longer term.
[redacted]		
Reptile Survey*	Conduct 7 reptile survey using artificial refugia.	This will provide information on presence/ absence of reptiles.
Tree protection	Install adequate root and crown protection if necessary.	This will protect retained trees during development.
Protection of Woodland	Insure adjacent woodland habitats are protected during development.	This will protect the woodland from impact during development.
Adequate pollution control	Habitats on site and in wider area should be adequately protected to ensure no polluted runoff in on site or adjacent land. All oils, fuels and chemicals should be adequately stored on site in bunded contains with appropriate spill kits and emergency procedures in place.	This will protect habitats on site and those in the nearby landscape.
Inclusion of bird and bat boxes in the landscaping	Place boxes in suitable locations in the grounds.	This would benefit local bird and bat populations on the site and within the local area. .
Use of native plant species during any future planting and landscaping.	Where possible select native tree and plant species in any future landscaping. Add log piles to garden habitats.	This will provide a greater longer term benefit for wildlife.

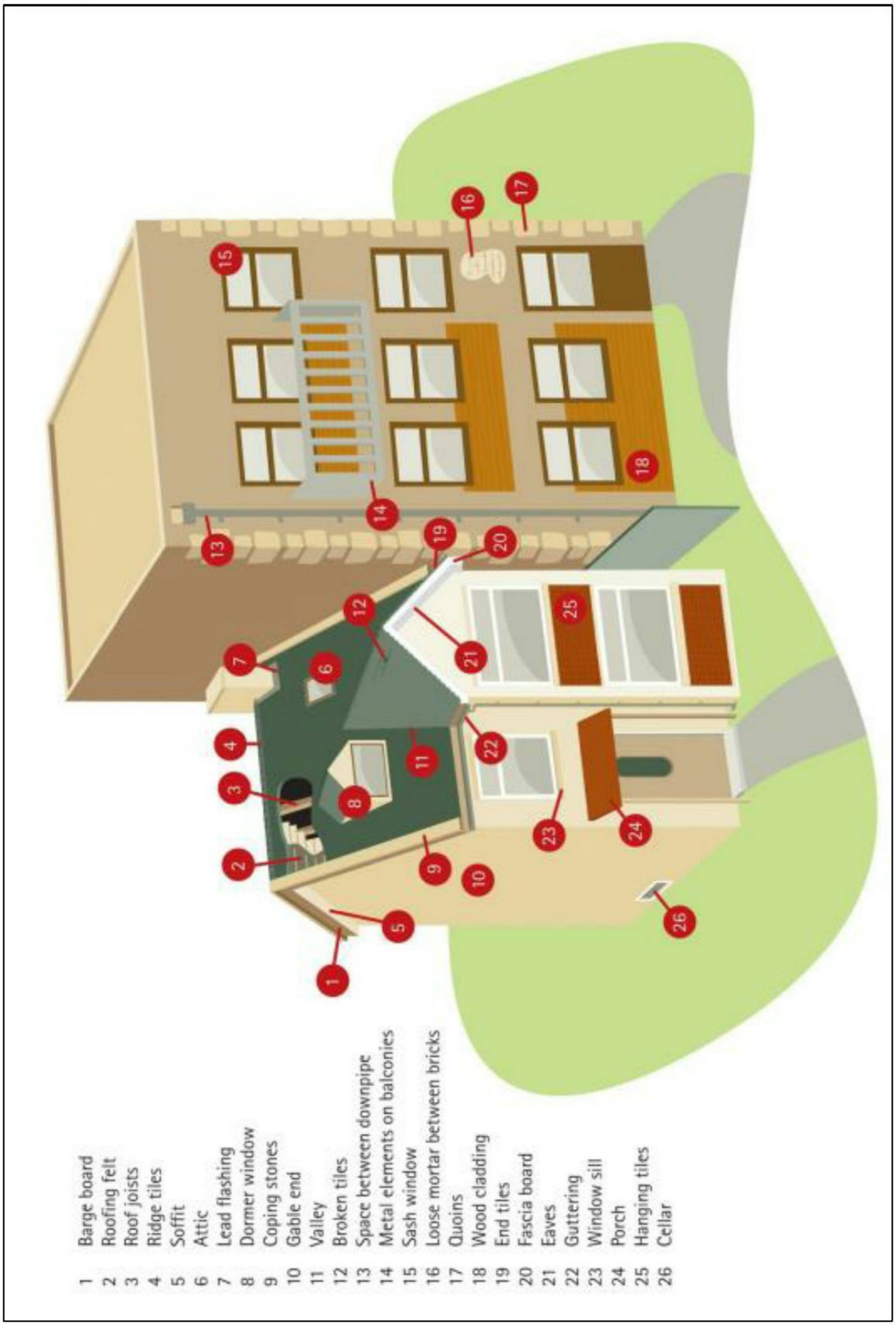
Table 4: Summary of recommendations.

7. Figures

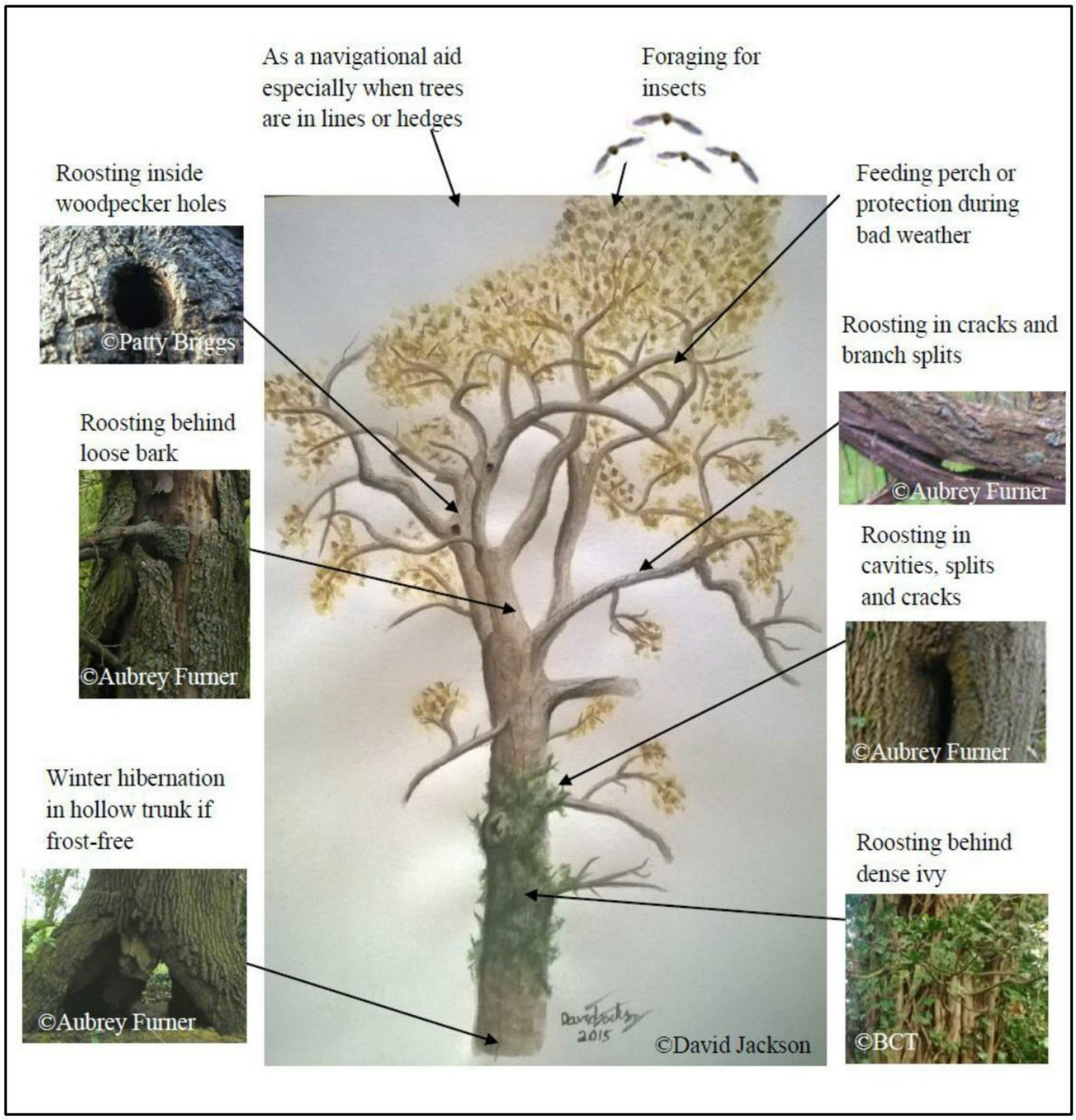
7.1 Figure 1: Phase I Habitat Map



7.2 Figure 2: POTNENTIAL BAT ROOST FEATURES ON BUILDINGS (BCT)



7.3 Figure 3: POTENTIAL ROOST FEATURES IN TREES (BCT)



8. APPENDIX

8.1 Appendix 1: Photos

Photo 1: looking across the grassland towards woodland

Photo 2: Showing the concrete slab

Photo 3: Example of scattered tree on or near the site

Appendix 2: Legislation

Protected species have protection under national legislation such as the Wildlife and Countryside Act 1981 and European legislation such as the Habitats Directive.

Please note the following:

(1) If there is no record of a particular protected species, this does not signify that that the species is absent from the site in question. It may mean that it has not been recorded, that the site has not been surveyed for this species, or that data relating to its presence has not been made available to us.

(2) The presence of a protected species record does not mean that the species is still present. It means that the species was recorded at that time and place. The implications of the record should be further evaluated, and a survey to establish the current status may be required.

(3) The following summary of legislation is designed purely as a basic guide, if any action is to be taken regarding any of the protected species listed, then it is imperative that the full relevant legislation be consulted.

WILDLIFE PROTECTION LEGISLATION IN ENGLAND

Legislation that protects wildlife in England exists at the European and national level.

European Law

The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) was aimed at ensuring conservation and protection of all wild plants and animals, increasing cooperation between states, and affording special protection to the most vulnerable or threatened species. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The Bonn Convention on Migratory Species of Wild Animals (1979 & 1994) requires the protection of migratory animals. It was implemented by the EC Birds Directive (Council Directive 79/409/EEC) and the EC Habitats Directive (Council Directive 92/43/EEC).

The EC Habitats Directive aims to establish a network of protected areas in order to maintain the distribution and the abundance of threatened species and habitats. A number of species are listed in the annexes.

Annex II lists animals and plants whose conservation requires the designation of Special Areas of Conservation (SACs).

Annex IV lists animals and plants in need of strict protection. For the animals, this prohibits deliberate capture, killing, disturbance (especially during breeding period), destruction or taking of eggs from wild, and destruction or deterioration of breeding sites or resting places. For the plants, this prohibits deliberate picking, collecting, uprooting, cutting, destruction, and trade in entire plants or parts, at all stages of life.

Annex V lists animals and plants for which taking in the wild may be subject to management measures

National Law

Wildlife and Countryside Act The Wildlife and Countryside Act 1981 (as amended) is the main source of legal protection for wildlife in England and was strengthened by the Countryside and Rights of Way Act 2000. A statutory five-yearly review of Schedules 5 and 8 (protected wild animals and plants) is undertaken by the relevant authorities. Species protection is provided under Schedules 1, 5, 6 and 8:

Schedule 1 lists bird species that are rare, endangered, declining or vulnerable. The Schedule is divided into two parts. Part I lists birds which receive special protection; these birds receive additional protection from disturbance at the nest. Part II lists birds that receive the same level of special protection, but only during the breeding season.

Schedule 5 protects animal (other than bird) species from certain actions, according to the sections of the Act under which they are listed:

S9 (1) prohibits the intentional killing, injury or taking. S9 (2) protection is limited to possessing and controlling. S9 (4a) prohibits the damaging, destroying or obstructing access to any place used by the animal for shelter or protection. S9 (4b) prohibits disturbing the animal while it is occupying any structure or place which it uses for shelter or protection. S9(5) prohibits the selling, offering for sale, possessing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from such an animal. Species on this Schedule do not appear on the PSI.

Schedule 6 lists animals that may not be killed by certain methods. Even humane trapping for research requires a licence.

Schedule 8 lists plant species for which it is prohibited to intentionally pick, uproot, destroy, trade in, or possess (for the purposes of trade).

Under the Wildlife and Countryside Act, all wild plants in Britain are protected from intentional uprooting by an unauthorised person. Landowners, land occupiers, persons authorised by either of these, or persons authorised in writing by the Local Authority for the area are exempt from this, except for Schedule 8 species.

Conservation Regulations the Conservation of Habitats and Species Regulations 2010 (as amended) transpose the EC Habitats Directive into national law. In addition to enabling the designation of SACs, the regulations also provide species protection:

Schedule 2 protects the listed animals from deliberate capture, killing, disturbance or trading in.

Schedule 4 protects the listed plants from picking, collecting, uprooting, destroying or trading in.

These actions can be made lawful through the granting of licences by the appropriate authorities. Licences may be granted for a number of purposes, but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild the population of the species concerned.

• Appendix 1 (strictly protected flora) - Plants for which contracting parties will prohibit deliberate picking, collecting, cutting or uprooting.

• Appendix 2 (strictly protected fauna) - Animals for which contracting parties will prohibit deliberate capture, possession, killing, damage to or destruction of breeding or resting sites, disturbance or destruction or taking of eggs. Appendix 3 (protected fauna) - Animals for which contracting parties will include closed seasons and regulate their sale, keeping for sale, and transport for sale or offering for sale of live and dead wild animals. (Not included in Notable Species List).

Bonn Convention on Migratory Species the Bonn Convention aims to conserve terrestrial, marine and avian migratory species throughout their range.

• Appendix 1 (migratory species threatened with extinction) - Species for which contracting parties will strictly protect and endeavour to conserve or restore the places where they live, mitigating obstacles to migration and controlling other factors that might endanger them.

• Appendix 2 (migratory species that need or would benefit from international co-operation) - Species for which contracting parties will be encouraged to conclude global or regional agreements for the conservation and management of individual species or, more often, of a group of species. (Not included in Notable Species List).

The EC Council Directive on the Conservation of Wild Birds the Birds Directive provides a framework for the conservation and management of all wild birds in Europe. As well as designating important sites for birds as Special Protection Areas, birds are generally protected from deliberate killing or capture and destruction of or damage to their nests or eggs, and deliberate disturbance. Allowances are made for game birds.

5. UK BAP & notable species

UK Biodiversity Action Plan and Section 41 Species

Biodiversity, or biological diversity, is the whole variety of life on Earth. The Convention on Biological Diversity (CBD) came about as a result of the 1992 Earth Summit. As one of 168 countries to sign up to the CBD, the UK was required to develop a national strategy for the conservation of biodiversity; the UK Biodiversity Action Plan (UKBAP) was born.

The UKBAP is the result of contributions involving a wide range of people and organisations, enabling the identification of species and habitats that are listed as priorities for conservation action. A 2007 review of the UKBAP has resulted in 1149 species and 65 habitats being listed as conservation priorities. For more information see www.ukbap.org.uk.

In addition to the national priorities and targets, action is also being taken at local level. The Essex Biodiversity Project is responsible for implementing the Essex Biodiversity Action Plan, which has 28 priority species and 15 priority habitats currently listed. For more information see www.essexbiodiversity.org.uk.

The UK BAP

(From Explanatory Note by Defra and Natural England on Section 41 of the Natural Environment and Rural Communities

(NERC) Act 2006 - Habitats and Species of Principal Importance in England)

The England Biodiversity List has been developed to meet the requirements of Section 41 of the Natural Environment and Rural Communities Act (2006). This legislation requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity.

The S41 list will be used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006 'to have regard' to the conservation of biodiversity in England, when carrying out their normal functions. In particular:

• Regional Planning Bodies and Local Planning Authorities will use it to identify the species and habitats that should be afforded priority when applying the requirements of National Planning Policy framework (NPPF) and PPS9 Circular to maintain, restore and enhance species and habitats.

• Local Planning Authorities will use it to identify the species and habitats that require specific consideration in dealing with planning and development control, recognising that under NPPF and PPS9 Circular the aim of planning decisions should be to avoid harm to all biodiversity.

• All Public Bodies will use it to identify species or habitats that should be given priority when implementing the NERC Section 40 duty.

Habitats of Principal Importance Fifty-six habitats of principal importance are included on the S41 list. These are all the habitats in England that have been identified as requiring action in the UK Biodiversity Action Plan (UK BAP). They range from habitats such as upland hay meadows to lowland mixed deciduous woodland and from freshwater habitats such as ponds to marine habitats such as subtidal sands and gravels.

Species of Principal Importance There are 943 species of principal importance included on the S41 list. These are the species founding England which have been identified as requiring action under the UK BAP. In addition, the Hen Harrier has also been included on the List because without continued conservation action it is unlikely that the Hen Harrier population will increase from its current very low levels in England.

Relationship with the UK Biodiversity List of Species and Habitats the UK BAP list of priority species and habitats is an important reference source and will be the focus for conservation action across the UK over the next decade. It has been used to draw up the species and habitats of principal importance in England under S41 of the NERC Act.

The revised UK BAP list of priority species and habitats can be downloaded from the UK Biodiversity Website: http://www.ukbap.org.uk/NewPriorityList.aspx

Relationship with the biodiversity duty under Section 40 of the NERC Act There is a general biodiversity duty in the NERC Act (Section 40) which requires every public body in the exercising of its functions to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'.

There is no direct relationship between the Section 41 duty on the Secretary of State to publish the list and promote the taking of steps to conserve the habitats and species on it, and the Section 40 duty on public bodies to have regard to the purpose of conserving biodiversity. Importantly:

(a) Biodiversity, as covered by the Section 40 duty includes all biodiversity and not just the habitats and species of principal importance. However, there is an expectation that public bodies would refer to the S41 list when complying with the section 40 duty.

(b) The duty on the Secretary of State to promote the taking of steps by others is not restricted to public bodies.

Defra guidance for local authorities and public bodies on implementing the biodiversity duty in the NERC Act draws attention to the S41 list, emphasising that local authorities and public bodies have a role to play in ensuring the protection of these species and habitats. Copies of the guidance can be downloaded from:
http://archive.defra.gov.uk/environment/biodiversity/documents/pa-guid-english.pdf

The overall aim of the Essex Biodiversity Project is to protect, conserve and enhance the variety of wildlife species and habitats in Essex through the successful implementation of the Essex Biodiversity Action Plan.