



LAND ADJACENT TO THE LODGE, RIVENHALL

PRELIMINARY ECOLOGICAL APPRAISAL

June 2021

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Title of Report	Land Adjacent to The Lodge, Rivenhall Preliminary Ecological Appraisal
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This report has been compiled in accordance with BS 42020:2013 Biodiversity – Code of practice for planning and development, as has the survey work to which it relates.

The information, advice and opinions provided here have been prepared in accordance with the Chartered Institute of Ecology and Environmental Management’s Code of Professional Conduct. We confirm that the views expressed are our true and professional *bona fide* opinions.

The impact assessment and recommendations set out in this report are based on professional experience and available guidelines. While there is some interpretation of current legislation on this basis, it should be noted that the authors do not have legal training. In the case of any uncertainty it is recommended that a specialist environmental lawyer be consulted.

The contents of this report should not be taken to indicate support of any planning application or subsequent development, on the part of EECOS or its parent company, Essex Wildlife Trust. Essex Wildlife Trust reserves the right to object to, or comment upon, any planning application that may arise on this site should any unacceptable wildlife impacts remain unresolved or should any relevant planning policies be compromised.

CONTENTS

1. EXECUTIVE SUMMARY.....	1
2. INTRODUCTION	3
2.1 General Introduction.....	3
2.2 Location and Description of Site.....	3
2.3 Outline of Proposed Works	3
2.4 Objectives of Survey	4
2.5 Survey Methodology	5
2.6 Impact Assessments	7
2.7 Competence	8
2.8 Constraints of Methodology	8
3. HABITATS	9
3.1 Legal Status	9
3.2 Assessment Methodology.....	9
3.3 Habitat Descriptions	9
3.4 Habitat Assessment	10
3.5 Impact Assessment	12
3.6 Recommendations	13
4. FLORA.....	14
4.1 Legal Status	14
4.2 Data Search Results.....	14
4.3 Assessment Methodology.....	15
4.4 Assessment Results	15
5. GREAT CRESTED NEWTS	16
5.1 Legal Status	16
5.2 Data Search Results.....	17
5.3 Assessment Methodology.....	17
5.4 Assessment Results	17
5.5 Recommendations	18
6. BATS	19
6.1 Legal Status	19
6.2 Data Search Results.....	19
6.3 Assessment Methodology.....	20
6.4 Assessment Results	20
6.5 Population Assessment.....	21
6.6 Impact Assessment	21
6.7 Recommendations	22
7. REPTILES	23

7.1	Legal Status	23
7.2	Data Search Results.....	23
7.3	Assessment Methodology.....	23
7.4	Assessment Results	23
7.5	Population Assessment.....	24
7.6	Impact Assessment	24
7.7	Recommendations	24
8.	BIRDS	26
8.1	Legal Status	26
8.2	Data Search Results.....	26
8.3	Assessment Methodology.....	26
8.4	Assessment Results	27
8.5	Population Assessment.....	27
8.6	Impact Assessment	27
8.7	Recommendations	27
9.	BADGERS	29
9.1	Legal Status	29
9.2	Data Search Results.....	29
9.3	Assessment Methodology.....	29
9.4	Assessment Results	29
10.	SPECIES OF PRINCIPAL IMPORTANCE IN ENGLAND.....	31
10.1	Legal Status	31
10.2	Data Search Results.....	31
10.3	Assessment Methodology.....	31
10.4	Assessment Results	31
10.5	Population Assessment.....	31
10.6	Impact Assessment	32
10.7	Recommendations	32
11.	REVIEW	33
11.1	Limitations of the Survey	33
11.2	Report Review	33

Map 1. Habitat Map.

Map 2. Local Wildlife Sites

Bibliography and References

Appendix 1. Photographs

LAND ADJACENT TO THE LODGE, RIVENHALL
PRELIMINARY ECOLOGICAL APPRAISAL

1. EXECUTIVE SUMMARY

- 1.1 This report has been prepared by Essex Ecology Services Ltd. (EECOS), the ecological consultancy of Essex Wildlife Trust, on behalf of HGN Design Limited. It comprises the results of a preliminary survey to investigate the potential impacts on wildlife that would result from the erection of three residential properties within the garden of The Lodge, located on Rectory Lane, Rivenhall, Essex.
- 1.2 A Preliminary Ecological Appraisal was carried out during a site visit on 7th June 2021, during which the site was assessed in terms of its vegetation and habitats and its suitability for use by legally protected and otherwise notable species.
- 1.3 The impact assessment and recommendations set out below are based on professional experience and available guidelines. While there is some interpretation of current legislation on this basis, it should be noted that the authors do not have legal training. In the case of any uncertainty, it is recommended that a specialist environmental lawyer be consulted.
- 1.4 The surveyed site comprises the garden, wood store and garage of The Lodge. The garden is a large highly managed area, with a large regularly mown species-poor lawn with other features concentrated within the margins including several compost piles, a vegetable patch and a chicken house. The site boundary includes some mature and semimature broadleaved and coniferous trees.
- 1.5 Immediately adjacent to the site on the west side and in the northern portion of The Lodge is the Local Wildlife Site Bra175, The Old Rectory Meadow, consisting of 3.3 hectares of species rich grassland. No direct impacts to the Local Wildlife Site habitat are anticipated. It is recommended that the trees and shrubs along the shared boundary are retained in order to buffer this important local grassland. Further recommendations for habitat enhancements are made including the incorporation of bird and bat boxes within the design of the buildings.
- 1.6 The site contains very little terrestrial habitat for Great Crested Newts, with the exception of compost heaps and log piles concentrated near the boundary which could potentially be used as shelter. The presence of a number of local ponds means that these features should be retained and if this is not possible their removal should be supervised by an ecologist as a precautionary measure..

- 1.7 An oak tree located within the eastern boundary has low level bat roost potential. Should the identified oak tree be affected by the proposed development, then this should be subject to further survey in the form of an aerial inspection of potential roost features carried out by a qualified tree climber and bat ecologist. It is recommended that bat roost features are incorporated into the fabric of the new buildings to provide a permanent enhancement of the site for bats.
- 1.8 Any new external lighting could have an impact upon bats. Therefore, lighting design should follow BCT guidance (Bat Conservation Trust 2009) to avoid and minimise impacts. Sensitive lighting could include, for example, the use of hoods or directional lighting, installing light sensors that are sensitive to large moving objects only and having short timers.
- 1.9 The grassland habitat within the garden, is regularly mown to a very short length and provides no suitable habitat for reptiles. Slow Worms have been seen by the residents within the compost heaps located along the eastern boundary. The adjacent LoWS provides optimal grassland habitat suitable for use by reptiles.
- 1.10 Due to the suitable habitat on site being limited to the small compost heaps, further surveys for reptiles prior to the works is considered not to be necessary. However, it is recommended that the initial clearance work of those features is supervised or carried out by a consultant ecologist. Any reptiles found during the works will need to be captured and moved to a nearby unaffected area of suitable habitat.
- 1.11 The loss of the compost heaps should be mitigated for in the form of creating reptile hibernacula in the south west corner of the site. The line of trees bordering the site should ideally be retained to allow the continued movement of reptiles and other wildlife along this corridor.
- 1.12 Bird nesting habitat is present within the surveyed shrubs and mature trees. Clearance of the shrubs and or the removal of trees should either be carried out between September and February or should be preceded by a survey for occupied bird nests. If any are present, the demolition would have to be delayed until the young birds had fledged the nest.
- 1.13 No evidence of Badger presence was found during the survey. Any new burrows discovered prior to the start of the development should be investigated for Badger presence by a suitably qualified ecologist.
- 1.14 The advice given in this report is valid for 24 months. If, after this time, the proposed work has not been undertaken, the plans have been altered, or there has been an obvious change in the ecological condition of the site, the advice of an ecologist should be sought as to the possible need for a new survey prior to submitting a planning application or implementing the scheme.

2. INTRODUCTION

2.1 General Introduction

This report has been prepared by Essex Ecology Services Ltd. (EECOS), the ecological consultancy of Essex Wildlife Trust, on behalf of HGN Design Limited. It comprises the results of a preliminary survey to investigate the potential impacts on wildlife that would result from the erection of three residential properties within the garden of The Lodge, located on Rectory Lane, Rivenhall, Essex.

2.2 Location and Description of Site

The surveyed site comprises the garden, wood store and garage of The Lodge, located on Rectory Lane, Rivenhall, Essex. The Ordnance Survey grid reference for the site is TL824165. The surveyed area is approximately 0.25 hectares. The garden is a large well maintained area, with several compost piles, bordering broadleaved and coniferous trees, a vegetable patch and a Chicken house.

The site is located just north of Witham. Immediately adjacent to the site on the west side and in the northern portion of The Lodge is the Local Wildlife Site Bra175, The Old Rectory Meadow, consisting of 3.3 hectares of species rich grassland. Directly west and north of The Lodge are the grounds of a large estate. Arable fields are directly east of the site. Rivenhall Oaks Golf Centre is located approximately 250 metres east of the site. The A12 is approximately 950 metres south east.

2.3 Outline of Proposed Works

There are two proposals currently being considered at the surveyed site. One proposal is for three bungalows to be located within the garden of The Lodge, with new access to the buildings being incorporated into the designs. The other option is for four bungalows to be erected, which would require the demolition of the existing wood store and garage to allow space for the additional building.

Given the relative small scale of the development, it would not fall under the control of the Town and Country Planning (EIA) Regulations 2017.

2.4 Objectives of Survey

2.4.1 Overview

The National Planning Policy Framework (NPPF) states that the planning system should contribute to and enhance the natural and local environment by minimising impacts on biodiversity. Government Circular 06/2005 ‘Biodiversity and Geological Conservation – Statutory obligations and their impact within the planning system’ (which is still live following the publication of the NPPF) states in paragraph 99: “It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.”

The Natural Environment and Rural Communities Act 2006 (NERC ACT) imposes an obligation on all public bodies, including local authorities, to have regard to the conservation of biodiversity, particularly of those species and habitats identified as being of principal importance. Section 41 of the Act requires a list to be published that identifies such species and habitats, and for England these are now referred to as Species and Habitats of Principal Importance in England (hereafter referred to in this report as SPIE and HPIE). The presence of these species and habitats is therefore material to the determination of planning applications.

2.4.2 Objectives

The aim of the survey was to determine how the proposed work might impact on wildlife or habitats that are of significance in a local, regional or national context. This primarily involved the consideration of species that have legal protection, but also included an assessment of any other noteworthy species and communities, as well as the type and quality of the habitats.

A secondary aim was to identify any constraints or considerations placed upon the development of the site as the result of the flora or fauna present, which includes the presence of “noxious weeds”, or alien species that are subject to specific control measures and restrictions.

2.5 Survey Methodology

2.5.1 Desk Study

Data from statutory designations, such as Sites of Scientific Interest, Special Protection Areas etc. have been gained from the website, www.magic.gov.uk. A data request was made to Essex Field Club for significant species records within one kilometre of the site. The data search report provided by the Essex Field Club is not attached in full as a separate annex to this report, as required by their terms and conditions, for practical reasons associated with its size, but it is available on request.

2.5.2 Field Survey

A site visit was made on 7th June 2021 by Hayley Dean, EECOS Ecologist. Habitats on the site were mapped in line with the UK Habitat Classification methodology (UK Habitat Classification, 2014). The site was surveyed for signs of legally protected or otherwise noteworthy species and habitats, such as those of Principal Importance in England (priority species and habitats included on the “Section 41 list” as required by the Natural Environment and Rural Communities Act 2006) and Red Data Lists. All habitats were assessed for their suitability to support legally protected and other noteworthy species.

The site habitat map was produced using QGIS computer software. Habitats mapped as areas were digitised using polygons, linear habitats were mapped as lines and other features were mapped as points. The finer scale Minimum Mapping Unit (MMU) was employed for this survey. Minimum mapped habitat areas were 25m². Minimum mapped linear features were five metres in length.

Where access was possible, the search extended beyond the boundary of the site, as populations of some species (*e.g.*, Badgers) living beyond the immediate boundary of the property could still be affected by activities upon it.

Specific searches and assessments were made as follows (detailed survey methodologies are given in the respective report chapters):

Species/Habitat	Included in assessment (Y/N)?
Hedgerows – assessment using Hedgerow Regulations 1997 criteria.	No hedgerows present within survey area
Great Crested Newts – identification and assessment of any suitable breeding ponds using Habitat Suitability Index (HSI, see below), terrestrial habitat and potential hibernation sites.	Yes
Bats – identification of potential roost sites and searches for evidence of activity; assessment of foraging habitat and commuting routes.	Yes
Dormice – assessment of suitable habitat.	No suitable habitat present
Otters – search for holts, spraints and footprints;	No suitable habitat affected
Water Voles – assessment of habitat suitability, search for and mapping of burrows, latrines, footprints, pathways and feeding stations.	No suitable habitat affected
Reptiles – assessment of suitable habitat and potential hibernation sites.	Yes
White-clawed Crayfish – assessment of habitat, search for live animals, remains and burrows.	No suitable habitat affected
Birds – assessment of nesting habitat and likelihood of presence of Birds of Conservation Concern or other significant assemblages.	Yes
Species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) – where appropriate, identification and mapping of such species.	No suitable habitat present
Badgers – search for and mapping of setts, pathways, footprints, holes, latrines, hairs.	Yes
Species of Principal Importance in England – assessment of habitat, general recording and searching for field signs.	Yes

Where a species or habitat has been identified for assessment, subsequent chapters in this report deal with each one in turn, expanding upon specific assessment methods or evaluation techniques, the results of the assessment, the legal implications and/or nature conservation obligations of the results and recommendations.

Botanical nomenclature follows Stace (2019).

2.6 Impact Assessments

The impact assessments and any subsequent recommendations given below are made on the assumption that the plans and proposals made available during the preparation of this report remain unchanged and, unless specified, are subject to the successful resolution of any planning application. Where further survey work is recommended that could be material to a planning application, it should be completed and the results made available to the Local Planning Authority prior to any planning decision being made.

Where it was possible to do so, potential impacts are identified and assessed in accordance with the Institute of Ecology and Environmental Management's *Guidelines for Ecological Impact Assessment in the United Kingdom* (IEEM, 2006), with particular reference to the geographic frame of reference that it contains. This suggests valuing ecological resources in the following context: International, UK, National (England), Regional, County, District, Local/Parish and Site.

The scale and significance of each potential impact is then assessed using published guidance, which varies from species to species, and the risk of potential impacts occurring (without mitigation) is quantified in accordance with the IEEM guidelines, using either 'certain' (95% probability or higher), 'probable' (50% to 94%), 'unlikely' (5% to 49%) or extremely unlikely (less than 5%).

A combination of these factors can then be used as a guide to determining appropriate mitigation. As stated in IEEM (2006), section 4.4, "...the assessment of impacts should be undertaken in relation to the baseline conditions that are expected to occur if the development were to not take place". As such, a Preliminary Ecological Appraisal such as this is essential in gauging both the current condition of the site, as well as the scale and severity of any impacts that changes to the site would bring about.

2.7 Competence

EECOS Ecologist Hayley Dean has been with the company since May 2018. She has completed BSc in Zoology and an MSc in Conservation Ecology. She has undertaken a wide range of protected species surveys including bat, Great Crested Newt, reptile and Water Vole. She holds a Natural England Great Crested Newt Survey Licence and is a qualifying member of CIEEM.

2.8 Constraints of Methodology

This survey was designed to provide a preliminary assessment of the site's wildlife value. Observations were made on and around the site to establish the potential of the habitats to support legally protected and other noteworthy species. Although presence or absence has been determined where possible, for some species, specific survey techniques or levels of survey effort are needed. Where necessary, additional survey work is recommended.

The wildlife and habitats present on any site are subject to change over time. All single-visit surveys of this kind can only record the situation as it is at the time, rather than providing a comprehensive analysis of the site's ecology. Therefore, significant delays to the implementation of the scheme may require a re-evaluation of ecological issues prior to commencement.

The survey was limited to ecological issues and so did not consider aspects such as archaeology, landscape, arboriculture or Tree Preservation Orders.

3. HABITATS

3.1 Legal Status

No habitat type receives blanket legal protection in itself, although specific pieces of land that support protected species or notable species assemblages can receive such protection. In these cases, the relevant land might be designated as a Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR), Special Protection Area (SPA), Ramsar Site or Special Area of Conservation (SAC).

At a non-statutory level, the national conservation value of certain “Habitats of Principal Importance in England” has already been introduced in Section 2.4, above. At a more local level, individual planning authorities are required by government policy to identify areas of substantive nature conservation interest and, in Essex, these are termed “Local Wildlife Sites”.

3.2 Assessment Methodology

The site was walked, with plant species lists compiled for the vegetation types present. In doing so, judgements were made as to whether or not any of the vegetation present comprised habitat types of particular significance, as outlined above.

3.3 Habitat Descriptions

Map 1 and photographs in Appendix 1 illustrate the habitats present within the surveyed area.

The site is located just north of Witham, on Rectory Lane, Rivenhall, Essex. The site comprises a large, highly managed garden, with short mown grass. The grassland is species poor, dominated by grass species with low diversity of herbs present amongst which Daisy (*Bellis perennis*) and Greater Plantain (*Plantago major*) dominate.

The garden is bordered along the western and south-eastern boundary by mature broadleaved and coniferous trees, with some ornamental species present. Species present include Fir sp. (*Abies* sp.), Whitebeam agg. (*Sorbus aria* agg.), oak (*Quercus* sp.), *Eucalyptus* agg., Cypress sp. (*Cyparissus* sp.), cherry (*Prunus avium* agg.) and Hawthorn (*Crataegus monogyna*). There are also some scattered apple (*Malus domestica*) trees present at the northern end of the garden and single coniferous tree located centrally. Separating the garden area which is proposed to

be built on from the garden to be retained at The Lodge is a large stand of mixed species trees and shrubs, including some *Cotoneaster sp.* Along the eastern edge of the garden is a small garden vegetable patch, with raised beds and a green house. The proposed site access will be located approximately here, which would require the removal of some Blackthorn (*Prunus spinosa*) and Hawthorn bushes. Compost heaps are situated amongst the bordering trees at the southern end of the eastern boundary. There is a chicken house located amongst the trees on the west side and a child's play house. The chicken house had a simple design, made from metal fencing, with a covered sheet roof. The play house was made from wood, with a felt covered roof. It was in good condition, with no obvious signs of damage.

In the north eastern corner of the site is a single storey garage and adjoining wood store. The garage has weatherboard walls and a clay tile roof. The garage was in very good condition, with no signs of damaged or missing tiles or gaps in the weatherboard. Internally, the walls and ceiling of the garage were lined with wooden boards. The adjoining wood store has a corrugated metal roof and a wooden frame. The garage and wood store together are just under 100m² in floor area.

Adjacent to the site on the west side there is a tall grassland habitat which is the Local Wildlife Site (LoWS) Bra175. The LoWS boundary extends in to the boundary of The Lodge, see Map 2. This is erroneous and will be taken off the LoWS during the next LoWS Review (see citation below). However, this area of LoWS within the garden lies outside the planning application boundary and will be retained. The habitat there is very similar to the rest of The Lodge's garden described above, containing shortly mown grassland and a large flower bed.

3.4 Habitat Assessment

3.4.1 Survey Site

There are no 'Habitats of Principal Importance in England' (HPIE) (see Section 2.4) or notable vegetation communities at the site. The grass has been mown very short and is not of any significant botanical interest. The site would not meet any of the criteria for selection as a Local Wildlife Site (LoWS).

There are no LoWS or other designated nature conservation sites within the site. However, there is one LoWS which borders the site boundary on the west and north side. Bra175 The

Old Rectory Meadow, consisting of 3.3 hectares of species rich grassland, see below and Map 2.

The main value of habitats within the survey area lies within the boundary trees and shrubs which form a buffer to the Local Wildlife Site. In addition, the log piles and compost heaps provide potential habitat for species such as reptiles; see relevant sections below.

3.4.2 Site Context

The site is within the 22 kilometre zone of influence (ZOI) of the Blackwater Estuary (Mid-Essex Coast Phase 4) Ramsar Site, SPA, SSSI and NNR. The site is just under 10 kilometres from this designated site. It is not anticipated that the proposed development would have any impacts upon this designated site.

There are no statutorily designated nature conservation sites (e.g., SSSI, SPA, SAC) identified within one kilometre of the surveyed site.

As described above, The Old Rectory Local Wildlife Site lies immediately west of the survey area sharing the western boundary of the planning application site. The citation for the grassland LoWS is as follows:

“**Bra175. The Old Rectory Meadows (3.3ha) TL 823166**

This site is of value due to its status as an old, species-rich sward. The dominant grasses are Cock's-foot (*Dactylis glomerata*), Meadow Foxtail (*Alopecurus pratensis*), Sweet Vernal Grass (*Anthoxanthum odoratum*) and Common Cat's-tail (*Phleum pratense*). The principal herb species are Black Knapweed (*Centaurea nigra*), Meadow Vetchling (*Lathyrus pratensis*), Bird's-foot Trefoil (*Lotus corniculatus*), Meadow Buttercup (*Ranunculus acris*) and Common Vetch (*Vicia sativa*).

Selection Criteria: HCr10

Equivalent Current Criteria: HC9

Commentary: a section of garden adjacent to Rectory Lane needs removing from the Site.

Priority Habitats: Lowland Meadows.

(Priority Habitats or “Habitats of Principal Importance in England” are equivalent to the former status as “UK BAP Priority Habitats”)

There is one other Local Wildlife Sites (LoWS) within one kilometre of the surveyed site:

- Bra172 Tarecroft Wood, approximately 800 metres north of the site.

Living Landscapes is a national initiative being promoted by The Wildlife Trusts, embracing characteristic landscapes and the wildlife they support. An important consideration for these areas is that they are also beneficial to local people and communities and foster a flourishing local economy. This embraces the idea that people should be encouraged to live in, work in and enjoy their local environment harmoniously. Essex Wildlife Trust has initiated an Award scheme to recognise high quality projects that meet the three aims of being good for wildlife, good for people and good for the local economy. There are no Living Landscapes within the site boundary. However, the principles of Living Landscapes still apply and the Brain Valley Living Landscape is located approximately 850 metres south west. Any habitat enhancements and creation included within the plans will reduce the impact on biodiversity and buffer the adjacent LoWS.

3.5 Impact Assessment

3.5.1 Site Impacts

There are no habitats of significant ecological value at the site. The site is however, located within close proximity to a species rich grassland, Local Wildlife Site Bra 175. See below. However, the grassland is situated within the grounds of a private estate and so there are not thought to be any likely direct ecological impacts to this habitat as a result of the proposed work or from increased footfall by new residents.

No direct impacts to the LoWS habitat are anticipated, due to the small scale of the proposed works.

3.5.2 Zone of Influence

Local Wildlife Site Bra 175 is adjacent to the planning application boundary as discussed above. However, this species-rich grassland is situated within the grounds of a private estate and so there are not thought to be any likely direct ecological impacts to this habitat as a result of the proposed work or from increased footfall by new residents.

3.6 Recommendations

It is recommended that the trees and shrubs along the shared boundary are retained in order to buffer this important LoWS grassland.

Further possibilities for habitat enhancements should be discussed between an ecologist and the landscape design team in order to minimise the loss of habitats and maximise opportunities for habitat creation and wildlife enhancements. This could include hedgerow planting, wildlife attracting borders, bug hotels and bird and bat boxes. See Appendices for in-fabric bird and bat box designs.

Section 6 sets out recommendations to protect the mature trees on site, including a lighting strategy. Section 7 sets out recommendations regarding safeguarding the adjacent LoWS.

4. FLORA

4.1 Legal Status

This chapter considers individual plant species, which might be of significance because they are rare (some few of which receive legal protection), or because they are troublesome agricultural pest species. Some non-native species have legal controls aimed at preventing their further spread in the countryside. This can be an issue during site clearance, where stripped vegetation is to be removed from site, *e.g.* to landfill.

4.1.1 Schedule 8 Plants

Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) lists those plants receiving special protection against picking, uprooting or destruction.

4.1.2 Schedule 9 Plants

The Wildlife and Countryside Act 1981 (as amended) makes it an offence, amongst other things, to plant or otherwise cause to grow in the wild any plant that is included in Part II of Schedule 9. There is a defence available if it can be proven that all reasonable steps were taken to avoid the offence and due diligence was exercised.

4.1.3 Notifiable Weeds

The Weeds Act 1959 lists five species often termed “notifiable weeds”, for which the landowner can be legally obliged to undertake control measures. They are Common Ragwort (*Jacobaea vulgaris*), Creeping Thistle (*Cirsium arvense*), Spear Thistle (*Cirsium vulgare*), Curled Dock (*Rumex crispus*) and Broad-leaved Dock (*Rumex obtusifolius*).

4.2 Data Search Results

The data search returned multiple records of notable plant species within one kilometre of the site. However, there were only two modern records available, Hoary Plantain (*Plantago media*) (One record 2016) and Field Scabious (*Knautia arvensis*) (one record 2016). Other species present include Field Gromwell (*Lithospermum arvense*) (one record 2009), Narrow-leaved Vetch (*Vicia sativa subsp. Nigra*) (one record 1988) and Dwarf Spurge (*Euphorbia exigua*) (one record 1988).

4.3 Assessment Methodology

The flora of the site was assessed whilst undertaking the habitat assessment described above.

4.4 Assessment Results

The surveyed site was not found to have any notable flora and such species in the local area are unlikely to be affected by the works to the outbuilding. Therefore, such species are not a consideration for the proposed work.

5. GREAT CRESTED NEWTS

5.1 Legal Status

Great Crested Newts are fully protected by the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). This makes it an offence, amongst other things:

- to deliberately capture, kill or injure Great Crested Newts;
- to damage or destroy a breeding site or resting place used by Great Crested Newts;
- to deliberately disturb Great Crested Newts in a way that is likely to impair their ability to migrate, hibernate, survive or reproduce, or in a way that is likely to affect significantly their local distribution or abundance;
- to intentionally or recklessly disturb Great Crested Newts while they are occupying a place of shelter or protection, or attempt to do so;
- to intentionally or recklessly obstruct access to any place of shelter or protection, or attempt to do so.

Any work that would otherwise result in one of these criminal offences must be carried out under a licence issued by Natural England. Guidelines produced by English Nature (which is now Natural England) state that any development work within 500 metres of a breeding pond should be carried out under a licence from Natural England, if it is likely that the population in the pond will be affected.

Damage to or destruction of breeding sites and resting places is an absolute offence and so there is no defence available within the law, even if the persons involved were not aware of a habitat's use by these animals. Courts will have regard to whether or not the impact could have been reasonably avoided in deciding upon a sentence. In all cases the risk of an offence occurring can be minimised by taking all reasonable precautions, as set out in available guidance.

Great Crested Newt is also a Species of Principal Importance in England.

5.2 Data Search Results

The data search returned multiple records of Great Crested Newt within one kilometre of the site. All of the records are from the ponds situated within Rivenhall Oaks Golf Centre, recorded in 2020. The nearest record is approximately 200 metres from the site and had three Great Crested Newt records.

5.3 Assessment Methodology

The surveyed site was assessed for its suitability as terrestrial habitat for Great Crested Newts. This included the site's vegetation and any other features, including artificial features, that may be used by sheltering or foraging newts, such as compost heaps, garden waste, spoil heaps and cracks in the ground.

A search of the site was made for ponds and other water bodies that may provide potential breeding habitat for Great Crested Newts. Maps and aerial photographs were consulted for ponds and other water bodies within 500 metres of the surveyed site.

5.4 Assessment Results

There are no ponds present on site. The majority of the terrestrial habitat within the site comprises short regularly mown grassland and does not provide suitable terrestrial habitat for Great Crested Newts in terms of shelter and foraging. There are several compost heaps and a log pile amongst the trees bordering the site. These features do provide some over-wintering habitat.

Aerial photography and 1:10,000 Ordnance Survey maps indicate there are seven ponds within 500 metres of the site, although five of these are to the east of Rectory Lane which may present a partial barrier to movement. The majority of these ponds are located within Rivenhall Oaks Golf Centre, where Great Crested Newts have been recorded.

The two more ecologically accessible ponds lie within 120 and 220 metres west of the site within Glebe Farm. There are farm buildings and hard standing directly between the survey site and these ponds and there appears to be abundant suitable terrestrial habitat in close proximity to the ponds, including the LoWS grassland.

For these reasons Great Crested Newts are unlikely to be present within the site boundary. The lack of suitable quality foraging habitat and very localised potential sheltering habitat within compost heaps and log pile combined with the distance to the nearest ponds and partial barriers to movement means that Great Crested Newts are thought to be unlikely to be present within the site boundary.

No further surveys are therefore required and this species is not a material consideration. However, due to the local occurrence of Great Crested Newts and presence of a highly localised potential refuge for this species within log piles, some precautionary measures are recommended (see below).

5.5 Recommendations

The compost heaps and log piles should be retained if possible. If these are to be removed then in order to account for the small possibility Great Crested Newts may be present then their removal should be supervised by an ecologist as a precaution.

Should any Great Crested Newts be discovered during the dismantling of the identified habitats, work in that vicinity should be halted and the consultant ecologist should be contacted for further advice.

6. BATS

6.1 Legal Status

Under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended) all species of bats receive full protection such that it is an offence, amongst other things:

- to deliberately capture, kill or injure any bat;
- to damage or destroy a breeding site or resting place used by bats (whether bats are in it at the time or not);
- to deliberately disturb bats in a way that is likely to impair their ability to migrate, hibernate, survive or reproduce, or in a way that is likely to affect significantly their local distribution or abundance;
- to intentionally or recklessly disturb bats while occupying a place of shelter or protection, or attempt to do so;
- to intentionally or recklessly obstruct access to any place of shelter or protection, or attempt to do so.

Any work that would otherwise result in one or more of these criminal offences must be carried out under a Natural England licence.

Damage to or destruction of breeding sites and resting places is an absolute offence and so there is no defence available within the law, even if the persons involved were not aware of a habitat's use by these animals. Courts will have regard to whether or not the impact could have been reasonably avoided in deciding upon a sentence. In all cases the risk of an offence occurring can be minimised by taking all reasonable precautions, as set out in available guidance.

The following bat species are those Species of Principal Importance in England that occur regularly in Essex: Barbastelle, Noctule, Soprano Pipistrelle and Brown Long-eared Bat.

6.2 Data Search Results

There were four records of bats within one kilometre distance from the site. Common Pipistrelle and Soprano Pipistrelle were both recorded approximately 400 metres from the site.

6.3 Assessment Methodology

The surveyed building and all trees at the site were assessed for their potential to support roosting bats, by looking for features typically used by bats as roosting sites such as cavities, old woodpecker holes, loose bark, splits and cracks. Potential bat access points and roost locations were noted and any evidence of bat activity was recorded, including droppings, staining and scratch marks. A powerful torch was used to search dark parts of the buildings and an endoscope was available to search any accessible cavities.

Collins (2016) includes a system for categorising trees, buildings and other structures based upon their potential to support roosting bats:

- Negligible: negligible habitat features on site likely to be used by roosting bats
- Low: structures with some potential for use by single bats, although not necessarily on a regular basis
- Moderate: a structure with one or more potential roost sites in more regular use, but unlikely to support a roost of high conservation status
- High: a structure 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, including maternity roosts.

The site was also assessed for its suitability as foraging habitat and for the presence of linear features that could form commuting routes.

6.4 Assessment Results

6.4.1 Bat Roost Potential

Garage/ Wood store

At the north western end of the site is a garage and adjoining wood store. The garage is a single storey weatherboard building, with a clay tile roof. The building is in a good condition, with no obvious points of entry suitable for use by bats. The internal inspection found no evidence of bats having been present within the building and the roof was well sealed, with no obvious roosting opportunities.

There is an adjoining wood store, with a timber frame and a corrugated metal sheet roof.

The building and wood store were assessed as having a negligible level of bat roost potential.

Other buildings/ structures

Within the garden there are several small buildings, including a child's play house, shed and a greenhouse. There is also a chicken house along the western boundary. All of these were assessed as having a negligible level of bat roost potential.

Trees

There are multiple deciduous and coniferous trees within the garden and bordering the garden. The majority of the trees were found to have no bat roost potential.

One mature oak tree, located along the eastern boundary was found to have a 'low' level of bat roost potential. This assessment comes from the presence of a rot hole on a dead limb. No other features were identified. It was not possible from ground level to inspect the rot hole.

6.4.2 Other Site Usage

The site has very good potential for use by foraging and commuting bats, due to the nearby good quality grassland offsite and the lines of trees bordering the site.

6.5 **Population Assessment**

The level of value of the surveyed site would probably be 'local' if a roost of any Essex bat species other than *Barbastelle* is present. If a roost of *Barbastelle* is present, the site would be of 'county' importance.

6.6 **Impact Assessment**

6.6.1 Site Impacts

It is not known whether the trees on site will be retained. If the mature oak bordering the site is impacted by the development this may involve the loss of any bat roosts present. In the absence of mitigation measures, there is a high risk of harming any bats present in roosts at the time of the work.

6.6.2 Zone of Influence

Any new external lighting associated with the bungalows is likely to have a negative impact upon use of the surrounding nearby grassland by foraging bats as this part of the site is currently unlit.

6.7 Recommendations

Should the identified oak tree with bat roost potential be affected by the proposed development, then this should be subject to further survey in the form of an aerial potential roost feature inspection by a qualified tree climber and bat ecologist. It is not known if the on-site trees will be affected by the proposed development. Where possible the trees bordering the garden should be retained to maintain a commuting route for bats.

It is recommended that bat roost features are incorporated into the fabric of new buildings to provide a permanent enhancement of the site. There are many commercially available products that can be incorporated into the brick work of new buildings or on the surrounding trees. See appendices.

Any new external lighting could have an impact upon bats. Therefore, lighting design should follow BCT guidance (Bat Conservation Trust 2009) to avoid and minimise impacts. Sensitive lighting could include, for example, the use of hoods or directional lighting, installing light sensors that are sensitive to large moving objects only and having short timers.

7. REPTILES

7.1 Legal Status

All of the UK's native species of reptiles are partially protected by the Wildlife and Countryside Act 1981 (as amended) such that it is an offence to:

- intentionally kill or injure any reptile.

There is no licensing system for reptiles, but there is a defence in the Act that permits otherwise illegal actions if they are the incidental result of a lawful operation and could not reasonably be avoided. For this defence to be used in a court of law it would be necessary to document and carry out a series of precautions and mitigation measures that seek to avoid the offence from being committed.

All reptile species are also Species of Principal Importance in England.

7.2 Data Search Results

The data search returned records of Grass Snake, Slow Worm and Common Lizard all located within one kilometre of the site. All three were recorded approximately 600 metres from the site, with the most recent record being 2020.

7.3 Assessment Methodology

The surveyed area was assessed in terms of its suitability as habitat for reptiles. This included an assessment of the site's vegetation and a search for features of potential use to reptiles, such as basking and over-wintering habitat.

7.4 Assessment Results

The sites habitat comprises a well maintained garden, with shortly mown grass. This habitat provides no suitable terrestrial habitat for reptiles. There are several compost piles within the garden, along the eastern boundary. There is a pile of vegetation in the south west corner of the site, near to the neighbouring offsite tall grassland habitat. There is a log pile at the southern end of the garden, amongst the line of trees. The owners of The Lodge state having seen Slow Worms within their compost bins previously. None were observed during the survey. The compost piles and the pile of vegetation in the south west corner provide suitable

basking habitat for reptiles. The compost heap and the log pile provide some suitable over-wintering habitat for reptiles.

7.5 **Population Assessment**

The value of populations of Common Lizard, Slow Worm or Grass Snake would depend on the population size but would most likely be at ‘local’ level. Adder populations are likely to be of value at a ‘county’ level.

7.6 **Impact Assessment**

7.6.1 **Site Impacts**

The on-site impacts that may result from the proposals are presented in the following table:

Type of Impact	Scale of Impact	Likelihood of occurrence in the absence of mitigation
Killing or injuring individual reptiles	Major negative at site level	Certain
Loss of terrestrial habitat	Major negative at site level	Unlikely

Likelihood rating: ‘certain’ (95%+), ‘probable’ (50% to 94%), ‘unlikely’ (5% to 49%) or ‘extremely unlikely’ (less than 5%) (as per IEEM, 2006).

The majority of the site is not suitable terrestrial habitat for reptiles and so it is considered unlikely that terrestrial habitat will be lost due to the proposed development.

7.6.2 **Zone of Influence**

The neighbouring LoWS grassland habitat to the west provides optimal reptile habitat. It is believed that trees which surround the site are being retained. This would serve as a corridor for reptiles travelling between sites. Therefore, the proposed works are unlikely to impact upon reptiles beyond the works area.

7.7 **Recommendations**

The location of the proposed development will be within the garden of The Lodge, which is regularly mown to a very short length. There is optimal grassland habitat adjacent to the site, which is also a LoWS. Slow Worms have been recorded within the sites compost bins, which are located amongst the line of trees bordering the site. The available suitable habitat (compost

heaps, vegetation piles and log piles) are all located along the site boundaries and are very small habitats. Due to the overall unsuitable terrestrial habitat present at the site, the location of the suitable habitats and their size, further surveys for reptiles prior to the works is considered not to be necessary. However, care and vigilance will be required during the development to minimise any risk of killing or injuring reptiles, particularly during the removal of the compost heaps, log piles and vegetation piles. It is recommended that the initial clearance work of those features is supervised or carried out by a consultant ecologist. Any reptiles found during the works will need to be captured and moved to a nearby unaffected area of suitable habitat. Furthermore, the grassland present at site should be maintained at a short length so not to encourage reptiles to further colonise the site.

The loss of the compost heaps should be mitigated for in the form of creating reptile hibernacula in the south west corner of the site.

Any fencing incorporated into the designs should be permeable to reptiles, to allow their continued movement around the site. The line of trees bordering the site should ideally be retained to allow the continued movement of reptiles and other wildlife along this corridor.

8. BIRDS

8.1 Legal Status

- The Wildlife and Countryside Act 1981 (as amended) makes it an offence, amongst other things, to:
- Intentionally kill or injure any wild bird;
- Intentionally take damage or destroy the nest of any wild bird included in Schedule 1 (whether or not it is active);
- Intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built;
- Intentionally take or destroy the egg of any wild bird;
- Intentionally or recklessly disturb any bird species included in Schedule 1 of the Act while it is building a nest, or is in, on or near any nest containing eggs or young;
- Intentionally or recklessly disturb the dependent young of any bird included in Schedule 1.

Schedule 1 of the Act includes certain rare or threatened species. Licences to permit these offences can only be granted by Natural England for reasons of preserving public health or public safety.

8.2 Data Search Results

There were multiple records of different bird species within the one kilometre search area. Notably, several came from approximately 600 metres from the site, including records of Red Kite, Sparrowhawk, Linnet and Yellow Wagtail.

8.3 Assessment Methodology

The site was assessed in terms of its suitability for use by nesting birds. This included the site's vegetation and buildings. All species seen during the survey visit were recorded, along with more detailed information about activity, where possible.

8.4 Assessment Results

The site provides suitable nesting habitat for birds in the form of the shrubs and the trees. The site is primarily suitable for woodland and garden bird species

The site does not contain any potential nesting sites for other Schedule 1 species, such as Barn Owl.

8.5 Population Assessment

The level of value of an assemblage of common nesting species would be likely to be at no more than 'local' level.

8.6 Impact Assessment

8.6.1 Site Impacts

The on-site impacts that may result from the proposals are presented in the following table:

Species	Type of Impact	Scale of Impact	Likelihood of occurrence in the absence of mitigation
Woodland/ common garden species	Killing or injuring individual animals	Minor adverse at site level	Probable
Woodland/ common garden species	Damage or destruction of all active nests and/or eggs	Minor adverse at site level	Probable
Barn Owl	Damage or destruction of Schedule 1 species' nests	Minor adverse at site level	Unlikely
Barn Owl	Disturbing Schedule 1 species at the nest site	Minor adverse at site level	Unlikely
Barn Owl	Disturbing the young of Schedule 1 species	Minor adverse at site level	Unlikely

Likelihood rating: 'certain' (95%+), 'probable' (50% to 94%), 'unlikely' (5% to 49%) or 'extremely unlikely' (less than 5%) (as per IEEM, 2006).

8.6.2 Zone of Influence

There is no potential for the proposed development to have any impact upon bird nesting habitat beyond the boundaries of the surveyed site.

8.7 Recommendations

Removal of the shrubs to create the site access, and any work to the nearby trees, should preferably be carried out between September and the following February, inclusive, to reduce

the possibility of damage to birds' nests, although it is possible for some species to nest earlier in the year. Guidance should be sought from a suitably qualified ecologist if there is any reason for doubt.

If clearance is planned to take place from March to August, inclusive, it will first be necessary to carry out a survey to determine whether or not there are active nests present. If there are, then the work would have to wait until any young had fledged. If not, the vegetation could be cleared immediately, before any nests could be established to avoid further delay.

In-fabric bird boxes are recommended to be incorporated within the design of the buildings. See appendices.

9. BADGERS

9.1 Legal Status

Badgers receive legal protection under the Protection of Badgers Act 1992. This makes it an offence, amongst other things:

- to wilfully kill or injure a Badger, or attempt to do so;
- to intentionally or recklessly damage, destroy or obstruct access to a sett;
- to intentionally or recklessly disturb a Badger when occupying a sett;

unless the action was the incidental result of a lawful operation and could not reasonably have been avoided.

Potentially unlawful activities can be made legal if they are covered by a licence, issued by Natural England.

9.2 Data Search Results

The data search returned two records of Badger from within the one kilometre search area. The most recent record is from 2017.

9.3 Assessment Methodology

The site was assessed for its suitability to support Badgers, with reference to foraging habitat and connectivity. A search was made for setts and evidence of activity such as latrines, pathways, footprints, hair caught in fences, and foraging marks.

9.4 Assessment Results

No Badger setts and no evidence of Badger activity were found at the surveyed site, although the site may provide foraging opportunities for this species.

Therefore, this species is not a material concern for the project.

However, Badgers are a mobile species and so any new burrows which are discovered prior to the start of development work should be investigated for Badger presence by a suitably qualified ecologist. Any open trenches will need to be covered at night to prevent Badgers

falling and becoming trapped. Alternatively, an escape ramp made from scaffold boards could be left in any such excavation.

10. SPECIES OF PRINCIPAL IMPORTANCE IN ENGLAND

10.1 Legal Status

This section considers those species listed by the Secretary of State, as required by Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 that are not covered in the preceding sections. Although the majority of these “Species of Principal Importance in England” (formerly described as UK BAP Priority species) receive no direct legal protection, the Natural Environment and Rural Communities (NERC) Act 2006 places an obligation on local authorities to have regard to their conservation and this is most obviously brought to bear through their planning control functions. As such, the presence of such species can be a material consideration to a planning decision.

It should be noted that some of these species do also receive legal protection, but not in a way that is considered relevant to this proposal (such as prevention of unlawful sale). Furthermore, some of the species in the preceding sections are also Species of Principal Importance in England (SPIE).

10.2 Data Search Results

The data search returned several records of species of principal importance from within the one kilometre search area. Records include Hedgehog and Brown Hare.

10.3 Assessment Methodology

The site was assessed in terms of its suitability as habitat for those SPIEs considered to have a reasonable likelihood of occurrence at the site, notably Hedgehog.

10.4 Assessment Results

The area around the surveyed site was assessed as having some potential to support foraging and hibernating Hedgehogs, primarily within the site compost bins and at the boundaries.

10.5 Population Assessment

Populations of Hedgehog are likely to be of value at a ‘local’ level.

10.6 **Impact Assessment**

10.6.1 **Site Impacts**

The on-site impacts that may result from the proposals are presented in the following table:

Species Present	Impact	Scale of Impact	Likelihood of occurrence in the absence of mitigation
Hedgehog	Killing or injury of individual animals	Minor adverse at site level	Unlikely

Likelihood rating: 'certain' (95%+), 'probable' (50% to 94%), 'unlikely' (5% to 49%) or 'extremely unlikely' (less than 5%) (as per IEEM, 2006).

10.6.2 **Zone of Influence**

There is no potential for the proposed development to have any impact upon Hedgehogs beyond the boundaries of the surveyed site.

10.7 **Recommendations**

Any clearance of vegetation or movement of vegetation piles should be carried out carefully and in stages. Any animals found should be moved to the edge of the development site. Guidance should be sought from a suitably qualified ecologist if the works are being carried out during the winter, when Hedgehogs may be attempting to hibernate.

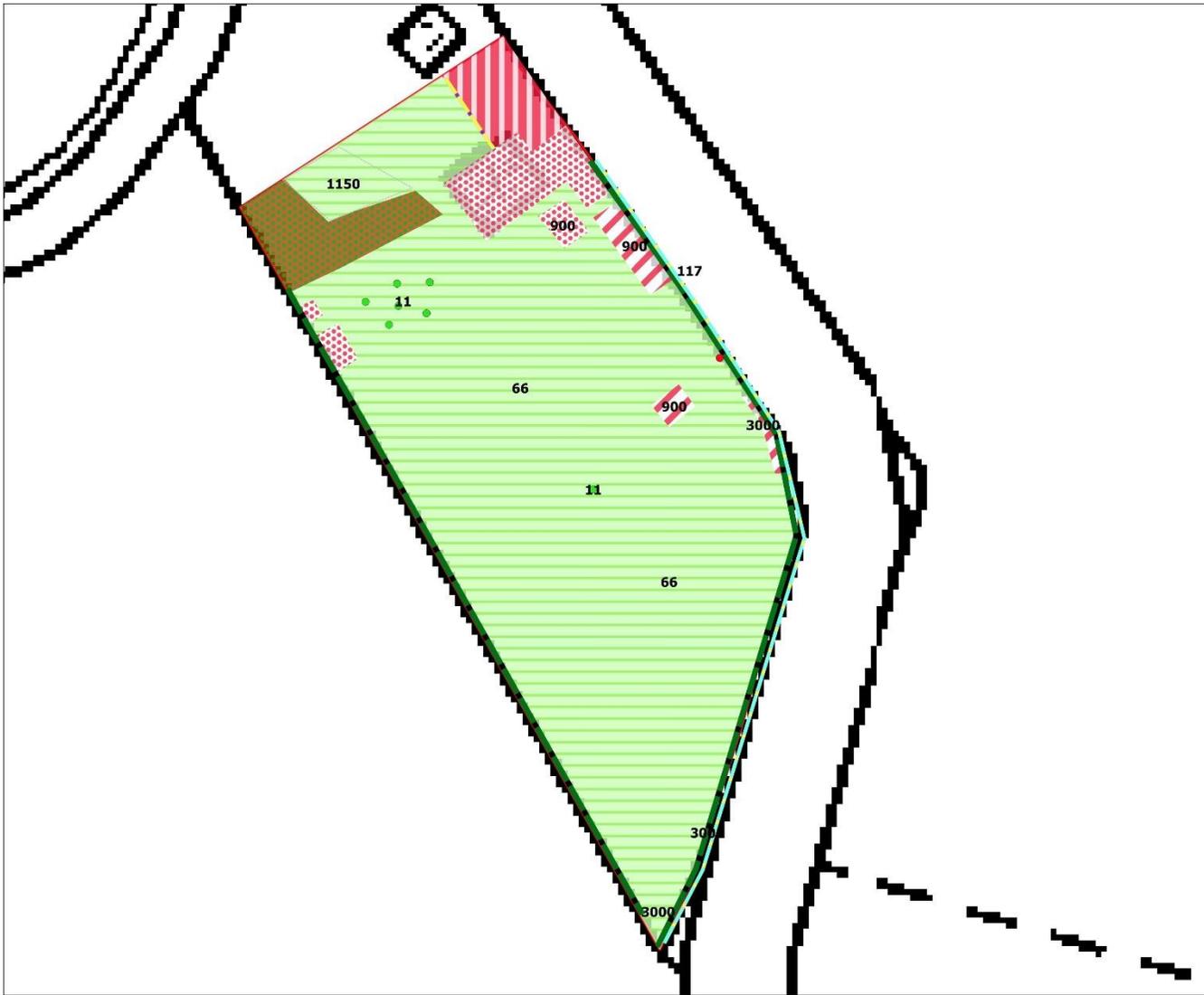
11. REVIEW

11.1 Limitations of the Survey

There were no significant limitations on this survey.

11.2 Report Review

The advice given in this report is valid for 24 months. If, after this time, the proposed work has not been undertaken, the advice of an ecologist should be sought as to the possible need for a new survey prior to submitting a planning application or implementing the scheme. Notwithstanding this, any obvious material changes in the area, such as the excavation of potential new Badger setts, the growth of tall vegetation, or changes in the scheme design, should be reported to EECOS prior to any work commencing on site so that the advice herein can be revised, if necessary.



Map 1. Rectory Lane, Rivenhall.

Habitat Map

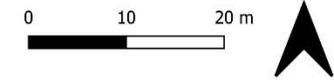
- Survey Area
- Primary Habitats**
- g3c - other neutral grassland (mown very short)
- w1h - other woodland mixed
- u1 - garden vegetable patch and compost bins
- u1b - developed land, sealed surface (hard standing)
- u1b5 - buildings
- w1g6 - line of trees (broadleaved and coniferous)
- h2 - hedgerow (Cherry Laurel)
- r1e - ditch (dry)
- scattered tree locations
- oak tree with bat roost potential
- Secondary Codes**
- 11 - scattered trees
- 66 - frequently mown
- 117 - dry
- 900 - small scale food growing
- 1150 - flower bed
- 3000 - compost piles
- 3001 - log piles



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Appendix 1. Photographs



1) Garage and wood store, looking north.



2) Eastern side of the garage, adjacent to the dry ditch.



3) Internal view of the garage.



4) Wood store.



5) Overview of the garden area looking north west.



6) Overview of the garden area looking south.



7) Chicken house and child's play house situated amongst the line of trees along the western boundary.



8) Compost heap in the south west corner, near to the offsite good condition grassland.



9) Compost heaps along the eastern boundary.



10) Log pile along the southern boundary.

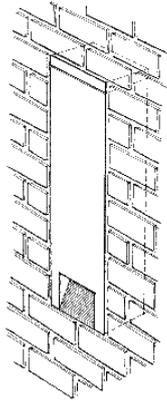


11) Oak tree with low level bat roost potential due to the rot hole on a dead limb.



12) Garden area north of the wood store. This is not anticipated to be impacted.

Appendix 2. Examples of in-fabric bat boxes



Schwegler 1FR; self cleaning and designed for bats that frequently use buildings

Ibstock Enclosed Bat Box B
Designed specifically for pipistrelles and maintenance free. Available in three brick colours



Small Red
215 x 215 mm



Ibstock Enclosed Bat Box C
Designed for pipistrelles, with a decorative finish. Maintenance free.

Habibat Bat Box
Shown *in situ*. Can be matched to any brick colour. Also available plain for rendering



Appendix 3. Examples of in-fabric bird boxes



Examples of Swift nest boxes, which are built into brick work, 6-7 metres above the ground.

<https://www.nhbs.com/title/177991/no-17a-schwegler-swift-nest-box-triple-cavity>

<https://www.nhbs.com/title/173237/no-16-schwegler-swift-box>



A House Sparrow terrace that can be built into brickwork (two colours available).

<https://www.nhbs.com/title/174850/1sp-schwegler-sparrow-terrace>



Type 24

A general purpose box available in different sizes and styles

<https://www.nhbs.com/title/173236/schwegler-brick-nest-boxes>



House Martin boxes to be fitted under the eaves

<http://www.nhbs.com/title/158618/9a-schwegler-house-martin-nest>



A Starling box *in situ* in brickwork

<https://www.nhbs.com/title/184737/starling-box-smooth-brick>