

**THE CROFT MEDICAL CENTRE, BARNHAM ROAD,
EASTERGATE, WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Final Document

July 2021

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EcIA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

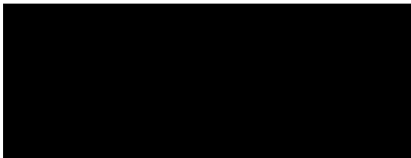
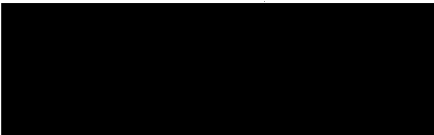
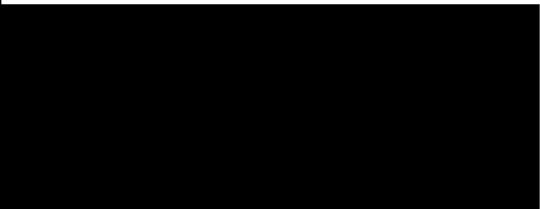
E

Reg



ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The Ecological Impact Assessment and report has been prepared in line with the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018) and survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

Description:	Ecological Impact Assessment
Produced For:	PHP Primary Care Developments
Issue:	Final
Report Reference:	21.0006.0002.F0
Date of Issue:	28 th July 2021
Date of Survey Works:	Various dates between 27 th January 2021 and 29 th June 2021
Author:	 Helen Butt MSc ACIEEM Ecologist
Checked by:	 Georgina Timmis BSc (Hons) MCIEEM Principal Ecologist
Reviewed by:	 Simon Colenutt BSc (Hons) MCIEEM CEnv Managing Principal Ecologist

DISCLAIMER

This is a technical report which does not represent legal advice. You may wish to seek legal advice if this is required.

COPYRIGHT

© This report is the copyright of ECOSA Ltd. Any unauthorised reproduction or usage by any person is prohibited.

**THE CROFT MEDICAL CENTRE, BARNHAM ROAD,
EASTERGATE, WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Table of Contents

EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	2
1.1 Background.....	2
1.2 The Site	2
1.3 Aims and Scope of Report.....	2
1.4 Site Proposals.....	3
2.0 PLANNING POLICY CONTEXT	4
2.1 Introduction	4
2.2 National Policy	4
2.3 Local Policy.....	5
3.0 METHODS.....	7
3.1 Introduction	7
3.2 Zone of Influence	7
3.3 Scoping	7
3.4 Desk Study	7
3.4.1 <i>Biological Records Centre</i>	7
3.4.2 <i>Multi-Agency Geographic Information for the Countryside</i>	8
3.4.3 <i>Other Sources of Information</i>	8
3.5 Field Survey.....	9
3.5.1 <i>Survey Methods</i>	9
3.5.2 <i>Survey Details</i>	9
3.5.3 <i>Field Survey Limitations</i>	9
3.6 Reptile Survey	10
3.6.1 <i>Survey Methods</i>	10
3.6.2 <i>Survey Details</i>	11
3.6.3 <i>Survey Limitations</i>	11
3.7 Criteria used to Assess Ecological Value	11
4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION	12
4.1 Introduction	12
4.2 Statutory and Non-statutory Designated Sites	12
4.2.1 <i>Baseline Ecological Conditions</i>	12
4.2.2 <i>Evaluation</i>	12
4.3 Habitats.....	13
4.3.1 <i>Baseline Ecological Conditions</i>	13
4.3.2 <i>Evaluation</i>	16
4.4 Bats.....	16
4.4.1 <i>Baseline Ecological Conditions</i>	16
4.4.2 <i>Evaluation</i>	17
4.5 Otter.....	17
4.5.1 <i>Baseline Ecological Conditions</i>	17
4.6 Badger	18
4.6.1 <i>Baseline Ecological Conditions</i>	18
4.6.2 <i>Evaluation</i>	18
4.7 Hazel Dormouse	18
4.7.1 <i>Baseline Ecological Conditions</i>	18
4.7.2 <i>Evaluation</i>	19

4.8	Water Vole	19
4.8.1	<i>Baseline Ecological Conditions</i>	19
4.9	Birds.....	20
4.9.1	<i>Baseline Ecological Conditions</i>	20
4.9.2	<i>Evaluation</i>	20
4.10	Reptiles.....	20
4.10.1	<i>Baseline Ecological Conditions</i>	20
4.11	Great Crested Newt.....	21
4.11.1	<i>Baseline Ecological Conditions</i>	21
4.12	Invertebrates.....	22
4.12.1	<i>Baseline Ecological Conditions</i>	22
4.13	Other Relevant Species.....	22
4.13.1	<i>Baseline Ecological Conditions</i>	22
4.13.2	<i>Evaluation</i>	22
5.0	ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/	
5.0	ENHANCEMENT MEASURES	23
5.1	Introduction	23
5.2	Scheme Design	23
5.3	Designated Sites	23
5.3.1	<i>Potential Impacts and Effects</i>	23
5.3.2	<i>Mitigation Measures</i>	24
5.3.3	<i>Significance of Residual Effects</i>	24
5.3.4	<i>Compensation</i>	24
5.3.5	<i>Enhancement</i>	24
5.3.6	<i>Monitoring</i>	24
5.4	Habitats.....	25
5.4.1	<i>Potential Impacts and Effects</i>	25
5.4.2	<i>Mitigation Measures</i>	25
5.4.3	<i>Significance of Residual Effects</i>	25
5.4.4	<i>Compensation</i>	25
5.4.5	<i>Enhancement</i>	25
5.4.6	<i>Monitoring</i>	26
5.5	Bats.....	26
5.5.1	<i>Potential Impacts and Effects</i>	26
5.5.2	<i>Mitigation Measures</i>	26
5.5.3	<i>Significance of Residual Effects</i>	27
5.5.4	<i>Compensation</i>	27
5.5.5	<i>Enhancement</i>	27
5.5.6	<i>Monitoring</i>	27
5.6	Badger	27
5.6.1	<i>Potential Impacts and Effects</i>	27
5.6.2	<i>Mitigation Measures</i>	27
5.6.3	<i>Significance of Residual Effects</i>	27
5.6.4	<i>Compensation</i>	27
5.6.5	<i>Enhancement</i>	28
5.6.6	<i>Monitoring</i>	28
5.7	Hazel Dormouse	28
5.7.1	<i>Potential Impacts and Effects</i>	28
5.7.2	<i>Mitigation Measures</i>	28
5.7.3	<i>Significance of Residual Effects</i>	28
5.7.4	<i>Compensation</i>	28
5.7.5	<i>Enhancement</i>	28
5.7.6	<i>Monitoring</i>	29
5.8	Birds.....	29
5.8.1	<i>Potential Impacts and Effects</i>	29
5.8.2	<i>Mitigation Measures</i>	29
5.8.3	<i>Significance of Residual Effects</i>	29
5.8.4	<i>Compensation</i>	29
5.8.5	<i>Enhancement</i>	29

5.8.6	<i>Monitoring</i>	29
5.9	Other Relevant Species	30
5.9.1	<i>Potential Impacts and Effects</i>	30
5.9.2	<i>Mitigation Measures</i>	30
5.9.3	<i>Significance of Residual Effects</i>	30
5.9.4	<i>Compensation</i>	30
5.9.5	<i>Enhancement</i>	30
5.9.6	<i>Monitoring</i>	30
5.10	Cumulative Effects	30
6.0	CONCLUSIONS	31
6.1	Conclusion	31
6.2	Updating Site Survey	31
7.0	REFERENCES	32
Map 1	Site Location Plan	
Map 2	Phase 1 Habitat Map	
Map 3	Reptile Survey	
Appendix 1	Proposed Site Layout	
Appendix 2	Sites Designated for Nature Conservation	
Appendix 3	Relevant Legislation	
Appendix 4	Protected and Notable Species Appraisal Methods	
Appendix 5	Appraisal Criteria for Bats	

EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by PHP Primary Care Developments to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of The Croft Medical Centre Site in Eastergate, West Sussex. The site is located Eastergate, within the Arun district of West Sussex and comprises an undeveloped field. The proposals entail the construction of a new medical centre with associated facilities, car parking and landscaping.

The main findings of the Ecological Impact Assessment are:

- The most notable habitats recorded on the site comprise the hedgerow with trees present along the eastern site boundary.
- The site is assessed as having suitability for supporting foraging and commuting bats, badger, hazel dormouse, breeding birds, and hedgehog.
- Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed including sensitive working hours and methods during the construction phase, implementation of protective fencing along the eastern site boundary and a sensitive lighting strategy post-development in relation to bats.
- Post-development, no residual or cumulative impacts are anticipated.
- The site will be enhanced through provision of new bat roosting features, new hedgerow planting and bolster planting, new tree planting and landscaping, provision of bird nest boxes and creation of natural hibernacula.
- Given the impacts identified, and the mitigation, compensation and enhancement measures proposed it is considered that the proposals accord with all relevant local and national planning policy.
- If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by PHP Primary Care Developments to undertake an Ecological Impact Assessment to support a planning application for The Croft Medical Centre, Barnham Road, Eastergate, West Sussex PO20 3RP (hereafter referred to as the site).

In 2017 planning approval was granted for a medical centre with pharmacy retail unit and other ancillary uses together with access onto Barnham Road and associated car parking (planning reference EG/57/16/PL). This application was supported by an Ecology Report (Applied Ecology, 2016a) and Reptile Survey Report (Applied Ecology, 2016b) produced by Applied Ecology Ltd (Applied Ecology, 2016a; Applied Ecology, 2016b). The design of the new medical centre has been developed from the 2017 approval to provide new up-to-date layouts for the surgery that more closely follow how primary healthcare facilities currently function.

Pre-application advice was sought from Arun District Council in August 2020. The feedback from the council highlighted the need for an ecological report setting out the biodiversity that is present, how biodiversity impacts can be avoided and appropriate mitigation and compensation measures. The council also stated that a Biodiversity Enhancement Plan should be provided showing biodiversity enhancement measures.

As such, a Preliminary Ecological Appraisal (PEA) (ECOSA, 2021) was undertaken by ECOSA during which further reptile surveys were recommended and carried out during the 2021 survey season.

1.2 The Site

The site is located in Eastergate, with the Arun district of West Sussex, centred on National Grid Reference (NGR) SU 9467 0571 (**Map 1**). The Phase 1 habitat map (**Map 2**) depicts the boundary of the site.

The site covers approximately 0.71 hectares and comprises an open field bounded by trees to the east. The site is rural in nature but lies adjacent to residential development to the south and west associated with Collins Close and Cherry Tree Drive. To the north and east lies an area of grassland, open parkland and farmland. The A27 lies some 1.6 kilometres to the north while the centre of Chichester lies eight kilometres west.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between January and July 2021. The report describes the habitats and species (hereafter referred to as ecological features)

within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;
- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The proposals entail the construction of a new medical centre with associated facilities, carparking, access and landscaping.

The appraisal is based on the Proposed Site Plan produced by Simpson Hilder Associates, dated June 2020 (Drawing No. 9226-P004) (**Appendix 1**).

Planning permission is being sought during 2021 with construction proposed to commence soon after permission has been granted.

¹ For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.

² In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Arun District Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with a revised NPPF published in February 2019. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 177 goes on to state that "*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*".

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 170 states that the planning system should contribute to and enhance the natural environment by "*...minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...*".

A number of principles are set out in Paragraph 175, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats³, including ancient woodland⁴. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph

³ The NPPF defines irreplaceable habitats as "*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.*"

⁴ Natural England defines ancient woodland as "An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."

175 also states “*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*”. Protection of sites proposed as SPAs, SACs and Ramsar sites or acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states “*the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat*”. Paragraph 99 states “*it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted*”.

2.3 Local Policy

Local planning policy within Arun District is provided by the saved policies within the Arun District Local Plan 2011-2031. These are summarised below:

- **Policy ENV SP1: Natural Environment**

Development will be permitted where it protects the following sites that are recognised for the species and habitats contained within them: Pagham Harbour Ramsar site, SPA and SSSI, Arun Valley SAC and SPA, Solent and Dorset Coast SPA, Bognor Reef SSSI, Felpham SSSI and Climping Beach SSSI.

- **Policy ENV DM1: Designated Sites of Biodiversity or Geological Importance**

Proposed development likely to have adverse effects on the designated sites mentioned above, will not normally be permitted, unless:

- There is no alternative solution;
- There are reasons of public health or public safety;
- There are benefits of primary importance to the environment; or
- There are imperative reasons of overriding public interest.

- **Policy ENV DM2: Pagham Harbour**

Development within 0-400 metres of the site will only be permitted in exceptional circumstances where the developer is able to demonstrate there will be no detrimental effects on Pagham Harbour. New residential development within 0-5 kilometres of the site will be required to make developer contributions towards the

agreed strategic approach, and/or create easily accessible new green spaces for recreation.

- **Policy ENV DM3: Biodiversity Opportunity Areas**

Development shall retain and sympathetically incorporate locally valued and important habitats, including wildlife corridors and stepping stones, and be designed in order to minimise disturbance to habitats. Where a development scheme would result in habitat loss, mitigation measures will be proposed and agreed with the LPA prior to determination of any planning application.

- **Policy ENV DM5: Development and Biodiversity**

Development schemes shall, in the first instance, seek to achieve a net gain in diversity and protect existing habitats on site. They shall also incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features. Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species and consideration of potential impacts.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected⁵. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

3.4.1 Biological Records Centre

Sussex Biodiversity Records Centre (SxBRC) was consulted on 28th January 2021 for the following data:

- Records of non-statutory designated sites (Local Wildlife Sites (LWSs and Designated Road Verges (DRVs)), within one kilometre of the site boundary;
- Records of legally protected and notable species (flora and fauna) within one kilometre of the site boundary, including Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and as listed in the England Biodiversity List (**Appendix 3**); and

⁵ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2018).

- Records of bats within two kilometres of the site boundary. Bat species are highly mobile and therefore the search radius is increased for this species group.

3.4.2 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2019) was reviewed on 12th July 2021 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See **Appendix 2** for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences or Bat Low Impact Class Licences (BLICLs) have been granted were reviewed. This information allows a greater understanding of the potential for European protected species to be present in the local area.

3.4.3 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

The previous ecology reports produced by Applied Ecology (Applied Ecology, 2016a) (Applied Ecology, 2016b) in relation to the site are referred to where necessary.

3.5 Field Survey

3.5.1 Survey Methods

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features. Habitats described in Section 4.0, have been mapped (**Map 2**) and photographs provided, where relevant. For ease of reference, Target Notes (TN) depict locations of particular ecological interest or features which are too small to map.

Phase 1 Habitat Survey

An assessment was made of all areas of vegetation within the site based on the standardised Phase 1 habitat survey methodology (JNCC, 2010)⁶. This involved identification of broad vegetation types, which were then classified against Phase 1 habitat types, where appropriate. A list of characteristic plant species for each vegetation type was compiled and any invasive species⁷ encountered as an incidental result of the survey recorded.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

The field survey was carried out by Helen Butt, Ecologist of ECOSA on 27th January 2021. The weather conditions included rain with 100% cloud cover, an ambient temperature of 8°C and a gentle breeze.

During the survey, the surveyor was equipped with 10x40 binoculars, a high powered torch and a digital camera.

3.5.3 Field Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

⁶ The standard JNCC Phase 1 habitat survey methodology involves the production of a Phase 1 map showing the location and extent of habitat types, however, given the limited size and complexity of the site surveyed a Phase 1 habitat map has not been produced in this instance.

⁷ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

Not all potential bat roosting features are accessible to the surveyor, e.g. holes or cracks in trees, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities.

It is not always possible to provide definitive assessments of a species' presence/likely absence at a site and so in the absence of direct evidence, assessments and recommendations are based on the presence of suitable habitat within/adjacent to a site and the results of species records within the desk study data.

The survey was undertaken at a time of year when many species of plant and animal are either dormant, not visible above ground or simply not present in the UK (such as migratory birds). Therefore, the survey was based upon an assessment of the habitat present on site and the suitability of this habitat to support protected species.

3.6 Reptile Survey

3.6.1 Survey Methods

The reptile survey was undertaken in accordance with current best practice guidelines (Froglife, 2015).

The reptile survey consisted of the laying bitumen felt mats approximately 500 millimetres x 500 millimetres in areas of suitable habitat on the site. Typically, this included areas of suitable habitat with good exposure to the sun. The mats were distributed in all areas considered to offer suitable reptile habitat. The locations of these mats are marked on **Map 3**. The reptile surveys were conducted across the site as well as within the wider ownership boundary to the north as these habitats are contiguous.

The use of such refugia is an effective way of surveying for all species of reptile and current survey guidance states that seven inspections are sufficient to confirm presence/likely absence. Survey visits were undertaken in marginal weather conditions such as cold but sunny weather or hazy and somewhat overcast conditions, as this will maximise the thermal value of the refugia for basking reptiles.

During each visit surveyors also undertook a visual inspection survey of other suitable refugia in the site and other suitable basking locations. During the survey a note was also made of any suitable hibernation features present within the site.

3.6.2 Survey Details

A total of 50 reptile refugia were distributed on 30th March 2021 with seven inspection visits undertaken between 21st April and 29th June 2021. **Table 1** provides details of each reptile survey.

Table 1: Reptile survey details

Survey Date	Air Temperature (°C)	Weather Conditions
21 st April 2021	13°C	Dry, 80% cloud cover, WF1-WF2 - A light breeze
27 th April 2021	10°C	Dry and sunny, 90% cloud cover, WF1-WF2 - A light breeze
30 th April 2021	10°C	Cloudy, 100% cloud cover, WF1-WF2 - A light breeze
5 th May 2021	9°C	Dry and sunny, 10% cloud cover, WF1-WF2 - A light breeze
11 th May 2021	15°C	Dry, 30% cloud cover, WF1-WF2 - A light breeze
26 th May 2021	11°C	Dry, 30% cloud cover, WF1-WF2 - A light breeze
29 th June 2021	16°C	Dry, 100% cloud cover, WF1-WF2 - A light breeze

The reptile survey was coordinated by Helen Butt, Ecologist of ECOSA assisted by suitably experienced ECOSA surveyors.

3.6.3 Survey Limitations

There were no significant limitations to the reptile survey.

3.7 Criteria used to Assess Ecological Value

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2018) have also been used to inform the assessment.

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory and Non-statutory Designated Sites

4.2.1 Baseline Ecological Conditions

Details of designated sites are provided in the paragraphs below.

Statutory Designated Sites

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. However, the site lies within the 12-kilometre buffer of the Singleton and Cocking Tunnels SAC (South Downs National Park Authority, 2018). The SAC is located approximately 11 kilometres north-west of the site and supports important hibernation sites for barbastelle *Barbastella barbastellus* and Bechstein's bat *Myotis bechsteinii*. The Zone of Influence in this instance has been extended to include the SAC as the site lies within the 12-kilometre 'wider conservation area' within which significant impacts or severance to bat flight lines need to be considered.

Non-Statutory Designated Sites

There is one non-statutory designated site of nature conservation interest situated within one kilometre of the site boundary. This is the Fontwell Park Racecourse LWS. The LWS is located 700 metres north of the site and comprises areas of grassland with rich swards, managed as hay meadow. Most of the grassland is unimproved and species-rich containing a large colony of green winged orchid *Orchis morio* and adder's tongue *Ophioglossum vulgatum*. SxBRC desktop study data also identifies the presence of a designated road verge located 50 metres west along Barnham Road from the entrance of the site. The road verge is designated for supporting wild clary *Salvia verbenaca* and is managed with a late cut regime.

Further information on sites designated for nature conservation are provided in **Appendix 2**.

4.2.2 Evaluation

The Singleton and Cocking Tunnels SAC is a European designated site and is therefore of European importance while the Fontwell Park Racecourse LWS is of particular

importance for nature conservation within West Sussex and is therefore of county value.

4.3 Habitats

4.3.1 *Baseline Ecological Conditions*

Desktop Study Results

A review of MAGIC revealed the presence small areas of broadleaved woodland and traditional orchards within one kilometre of the site boundary. The closest area of traditional orchard is located immediately east of the site. Consultation with SxBRC also produced records of traditional orchards located across land to the east of the site. The desktop study also identifies the presence of a chalk stream approximately 330 metres west of the site and 450 metres south. The MAGIC database identifies these streams as drains which eventually flow into the Lidsey Rife some three kilometres south of the site. MAGIC also identified the presence of a small waterbody on site however this was not recorded during the survey as it has been filled in and is now an area of hardstanding.

Field Survey Results

Habitats within the site are shown on the Phase 1 Habitat Map (**Map 2**), Target Notes and photographs have been provided as appropriate, Target Notes are cross referenced to **Map 2**. Habitats are described in general terms using standard Phase 1 habitat survey terminology, with reference to dominant, characteristic and notable species in each vegetation type. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Scattered Trees

There are a small number of scattered trees present across the site. At the northern site boundary there are a collection of five cypress trees *Cupressus* species (**TN1**) (**Figure 1** and **Figure 2**) as well as a small number of immature oaks *Quercus* species (some of which are located just off-site). There are also a hawthorn *Crataegus monogyna* (**TN2**) and field maple *Acer campestre* (**TN3**) located at the southern end of the site adjacent to the car park.



Figure 1: Collection of cypress trees at northern boundary

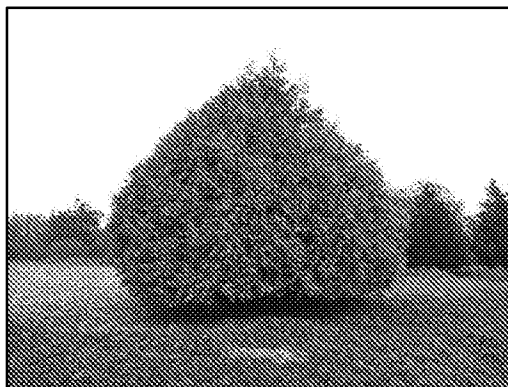


Figure 2: Scattered cypress tree

Scattered Scrub

Areas of scattered scrub dominated by bramble *Rubus fruticosus* aggregate are present along the eastern site boundary (**Figure 3**). Occasional dog rose *Rosa canina*, common nettle *Urtica dioica*, creeping thistle *Cirsium arvense* and ivy *Hedera helix* are also present. At the time of the survey, some scrub clearance had taken place along the eastern boundary.



Figure 3: Scattered bramble scrub at eastern boundary

Semi-Improved Grassland

The majority of the site is dominated by an open field comprising semi-improved grassland (**Figure 4**). At the time of the survey, some recent grassland management had taken place leaving a short sward. However, some areas remain tussocky particularly around bunds that are present adjacent beneath the collection of cypress trees and the north-eastern corner of the site (**Figure 5**). There is also a small patch of mown semi-improved grassland at the southern end of the site adjacent to the car park. Frequent grass species include perennial rye-grass *Lolium perenne*, fescue *Festuca* species and cock's foot *Dactylis glomerata*. A range of herbaceous species was also recorded including ground ivy *Glechoma hederacea*, nettle, clover *Trifolium* species,

lords and ladies *Arum maculatus*, snow drop *Galanthus nivalis*, creeping thistle and teasel *Dipsacus fullonum*.



Figure 4: Site dominated by mown semi-improved grassland



Figure 5: Grassy bund at north-eastern corner of the site

Hedgerow with Trees

The eastern site boundary is formed by a hedgerow comprising hawthorn *Crataegus monogyna*, bramble and ivy interspersed with oaks and poplar *Populus* species trees ranging from immature to mature (**Figure 6**). The hedgerow is well connected to linear habitats in wider area comprising a network of hedgerows and treelines that extend eastwards. There is a particularly large oak tree with the hedgerow (**TN4**) located at the south-western corner of the field.



Figure 6: Eastern hedgerow with trees

Other Habitats

The southern-most part of the site comprises a tarmac carpark with gated access into the wider open field which dominates the site and there is a small area of tarmac hardstanding in the south-western corner of the field marking the footprint of a former building or structure. The western site boundary is formed by close board fencing separating the site from residential development to the west. There are also some log and brash piles scattered across the site where woody vegetation clearance has taken

place (**TN5**). The red line boundary does not include any road verges at the entrance of the site.

4.3.2 Evaluation

The habitats on site comprise scattered trees, scattered scrub, semi-improved grassland, hedgerow with trees and hardstanding. The habitat of greatest ecological value within the context of the site is the hedgerow with trees that form the eastern site boundary as these features connect the site to habitats in the wider area forming a habitat corridor.

The site does not support any of the notable habitat types identified within the desktop study such as woodland or chalk stream. While the hedgerow with trees is not representative of a Habitat of Principal Importance hedgerow, it is assessed as being of importance at the site level, as its loss would result in the severance of a habitat corridor and would be difficult to replace. The remaining habitats are common and widespread in and around the Eastergate area and are therefore considered to be of negligible importance.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

A review of MAGIC revealed the presence of a single granted EPSM licence in respect of bats within one kilometre of the site boundary. The licence was granted in 2016 and covers the destruction of a resting place of common pipistrelle *Pipistrellus pipistrellus* located approximately 950 metres south-east of the site.

Consultation with SxBRC produced records of eight species of bat within one kilometre of the site boundary: barbastelle, serotine *Eptesicus serotinus*, whiskered bat *Myotis mystacinus*, noctule *Nyctalus noctula*, Nathusius' pipistrelle *Pipistrellus nathusii*, common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared bat *Plecotus auritus*. The records included maternity roosts of both barbastelle and brown long-eared bat located within trees approximately 1.8 kilometres north-east of the site in 2014, likely associated with Slindon Wood. Roosts of common pipistrelle, soprano pipistrelle were also recorded, most recently in 2018 approximately one kilometre west.

The site lies within the 12-kilometre buffer of the Singleton and Cocking Tunnels SAC (South Downs National Park Authority, 2018). The SAC is located approximately 11 kilometres north-west of the site and supports important hibernation sites for barbastelle *Barbastella barbastellus* and Bechstein's bat *Myotis bechsteinii*.

Field Survey Results

Tree Assessment

The trees within the site and along site boundaries were assessed from ground level for their suitability to support roosting bats. None of the trees contained Potential Bat Roosting features such as rot holes, callous rolls or woodpecker holes therefore the trees are assessed as having negligible suitability for supporting roosting bats.

Foraging and Commuting Habitat

The site provides suitability for foraging and commuting bats in the form of the eastern boundary hedgerow with trees which is well-connected to habitats in the wider area. In particular, on-site habitats are linked to a network of hedgerows and treelines within open green space to the east and bounding fields in the wider area. Bats may utilise these features to commute to foraging areas further afield such as Slindon Wood some 1.6 kilometres north. Overall, the site is assessed as having moderate suitability for foraging and commuting bats.

4.4.2 Evaluation

Foraging and Commuting Bats

The boundary hedgerow with trees on the eastern boundary is assessed as being of site level importance to foraging and commuting bats due to its connectivity with habitats in the wider area and its commuting suitability. While similar hedgerows are present in the wider area, the eastern boundary hedgerow forms part of this network and its loss would represent a minor loss of the local commuting and foraging resource.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Desktop Study Results

SxBRC does not include otter *Lutra lutra* records within their data searches as the information is confidential. As such, it is unknown whether otter has been recorded within the local area. A review of online OS mapping and aerial imagery reveals the presence of a network of drainage ditches located to the south and east of the site (330 metres west at its closest point) that eventually flow into the Lidsey Rife some three kilometres south. There are also two waterbodies located 745 metres south-east of the site associated with a sewage station.

Field Survey Results

The habitats present within the site are not suitable for supporting otter as there are no rivers, streams, wetlands or waterbodies. The network of drainage ditches to the west and south are separated from the site by residential development of Eastergate with

no hydrological or terrestrial connectivity suitable for otter between them. The site does not provide opportunities for resting places or holts. As such, otter is likely absent from the site and the species is not considered further in this report.

4.6 Badger

4.6.1 Baseline Ecological Conditions

Desktop Study Results

SxBRC does not include badger *Meles meles* records within their data searches as the information is confidential. As such, it is unknown whether badger has been recorded within the local area.

Field Survey Results

No evidence of badger was recorded during the survey such as setts, latrines or pathways. The site does provide some suitable foraging habitat for badger in the form of scattered scrub, grassland and bases of hedgerows. The site is well-connected to fields bounded by hedgerows and treelines to the east which may support badger setts.

4.6.2 Evaluation

There are no setts present within the red line boundary, therefore the site does not represent an important resource for resident badger. While the site is suitable for foraging badger, the site only forms a small proportion of the available habitat in the surrounding area. As such, habitats on site are assessed as being of site level importance only.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC did not return any records of hazel dormouse within one kilometre of the site boundary. However, a review of MAGIC revealed the presence of a single granted EPSM licence of hazel dormouse *Muscardinus avellanarius* within the two kilometre search radius. The licence was granted in 2017 and is located 550 metres west of the site. The licence is likely to be associated with a new housing development situated in the same location. Ecological survey work associated with the housing development (planning reference AL/3/19/PL) carried out in 2017 confirmed the presence of hazel dormouse within the hedgerow west of Northfield Lane (760 metres west of the site). As such, the species is known to be present within the local area.

Field Survey Results

The site supports some key food sources for hazel dormouse including bramble and hawthorn. Additionally, the boundary hedgerow to the east offers a continuum of habitat that is bushy enough to provide cover for hazel dormouse and suitably well-connected to hedgerows and treelines in the wider area. Furthermore, hazel dormouse was confirmed to be present within the local area in 2017. As such, it is assumed that the species is still present within the vicinity of the site and may utilise boundary vegetation to the east.

4.7.2 Evaluation

The boundary hedgerow and scrub habitats are assessed of being of importance at the site level, as they form part of a well-connected network of dormouse habitat in the surrounding area, although do not represent an exceptional foraging resource for the species and if the habitat was lost there would be other ways dormouse could access habitat areas.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC did not produce any records of water vole *Arvicola amphibius* within one kilometre of the site boundary, however this does not confirm the absence of the species in the local area. A review of online OS mapping and aerial imagery reveals the presence of a network of drainage ditches located to the south and east of the site (330 metres west at its closest point) that eventually flow into the Lidsey Rife some three kilometres south where water vole may be present. There are also two waterbodies located 745 metres south-east of the site associated with a sewage station.

Field Survey Results

The habitats on site are not suitable for water vole as there are no rivers, streams, waterbodies or wetlands present. The site is isolated from the network of drainage ditches and waterbodies identified within the desktop study by residential development and the site does not offer any hydrological or terrestrial connectivity between areas of suitable water vole habitat. As such, water vole is considered absent from the site and is not considered further in this report.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records of 92 species of bird within one kilometre of the site boundary. Of these, dunnoek *Prunella modularis*, house sparrow *Passer domesticus*, goldfinch *Carduelis carduelis*, goldcrest *Regulus regulus* and other common and widespread species are likely to nest within on-site trees and boundary hedgerows. The waders and waterfowl identified within the desktop study are unlikely to be present due to the lack of suitable habitat.

Field Survey Results

During the survey, the following species were recorded on site or flying over: robin *Erithacus rubecula*, house sparrow, blackbird *Turdus merula*, blue tit *Cyanistes caeruleus*, carrion crow *Corvus corone* and magpie *Pica pica*. The site offers suitable nesting habitat for a range of bird species in the form of the scattered trees and boundary hedgerow.

It is possible that overwintering species identified within the desktop study are present on occasion, however the site lacks the open space that is present within larger open fields in the wider area likely to be utilised by gulls for feeding. As such, the site is unlikely to represent an important habitat resource for overwintering birds and therefore these species are not considered further in this report.

4.9.2 Evaluation

Breeding Birds

The suitable nesting habitats within the red line boundary are assessed as being of importance at the site level. This is due to the extent of habitat in the surrounding area, particularly hedgerows, trees and woodland to the east, that provide a range of nesting opportunities for birds in the local area. In isolation, the site does not represent a particularly important or notable resource for breeding birds within the context of the wider area.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Desktop Study Results

Previous reptile surveys undertaken at the site by Applied Ecology in 2016 did not record any reptiles on site (Applied Ecology, 2016b). However, consultation with SxBRC produced records of slow-worm *Anguis fragilis*, grass snake *Natrix natrix* and

common lizard *Zootoca vivipara* within one kilometre of the site boundary. The most recent record for slow-worm is from 2019 within a residential garden some 320 metres south-east of the site. Common lizard has been recorded some 880 metres south-west within fields in 2016 while grass snake was last recorded in 2010 at Brooks Nursery approximately 860 metres south-east of the site.

Field Survey Results

The site supports a range of habitats generally favoured by reptiles including scrub and grassland interfaces as well as bunds, hedgerow bases and brash piles that may be used for breeding and/or hibernating. There are also suitable habitat types present within the wider area such as a network of hedgerow bases at field margins to the east, with no dispersal barriers between the site and the surrounding area.

Reptile Survey Results

No reptiles were recorded during any of the survey visits during 2021. These findings are consistent with the 2016 survey results compiled by Applied Ecology (Applied Ecology, 2016b). As such, reptiles are considered likely absent from the site and are not discussed further in this report.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

A review of MAGIC revealed the presence of a number of drainage ditches within 500 metres of the site, the closest being located 330 metres west. No other waterbodies are present within a 500-metre radius of the site. Consultation with SxBRC produced a single record of great crested newt *Triturus cristatus* located approximately one kilometre south-west of the site, however the record is from 1992.

Field Survey Results

There are no suitable aquatic habitats on site that would support breeding great crested newt such as ponds, lakes or other waterbodies. There is suitable terrestrial habitat for great crested newt on site in the form of tussocky grassland, scrub, bunds and brash piles that would be suitable for foraging, shelter and hibernation. However, given that the species is unlikely to breed within the vicinity of the site due to the lack of suitable waterbodies, the species is likely absent from the site and is not considered further in this report.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records of a number of notable invertebrate species within one kilometre of the site boundary including stag beetle *Lucanus cervus*, most recently recorded in 2020 some 380 metres south-east and purple emperor *Apatura iris* butterfly recorded in 2003 approximately one kilometre south-west of the site.

Field Survey Results

The site lacks an abundance of deadwood suitable for stag beetle and does not support blocks of woodland favoured by the purple emperor butterfly nor does it support willow *Salix* species, the food plant of the caterpillar. As such, the species identified within the desktop study are unlikely to be present. The habitats on site are likely to only support common and widespread invertebrate assemblages due to the habitats present, therefore this species group is not considered further in this report.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with SxBRC produced records of common frog *Rana temporaria* and European hedgehog *Erinaceus europaeus* within one kilometre of the site boundary within the last ten years.

Field Survey Results

The site supports habitat suitable for European hedgehog which are likely to commute and forage across the grassland, along hedgerow bases and into residential gardens within the vicinity of the site. The site does not support any habitat suitable for breeding common frog, nor does the surrounding area. As such, this species is not considered further in this report.

4.13.2 Evaluation

European hedgehog is a priority species. While there are large areas of suitable habitat for hedgehog in the wider area such as hedgerows, fields, scrub and woodland, the site forms part of this local resource. As such, on-site habitats are assessed as being of site level importance to hedgehog.

5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy⁸ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 170 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails the construction of a new medical centre. The new medical centre will consist of a two-storey building with a flat roof, rooftop plant and photovoltaic panels. New site parking will be provided, patient parking at the front of the building and staff parking and cycle storage to the rear of the building. A clinical waste store will be provided to the rear of the site at tarmac level where there will also be an ambulance parking area and turning head. The building will have a rendered finish to ground level with masonry at first floor level. New planting and soft landscaping will be provided, hedgerow planting and tree planting. New external lighting will also form part of the proposals.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

There will be no direct impact on the bats designated under the Singleton and Cocking Tunnels SAC due to the retention of all boundary vegetation including the hedgerow along the eastern boundary, therefore causing no habitat severance for bats. In the absence of mitigation, however, it is possible that lighting used during construction and new external lighting installed as part of the scheme may illuminate this hedgerow and

⁸ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

cause disturbance to foraging and commuting barbastelle and Bechstein's bat (and other bat species), if present.

No impacts on the Fontwell Park Racecourse LWS are anticipated during the construction phase or operational phase due to the distance between the development site and the LWS.

5.3.2 Mitigation Measures

Construction related activities will be carried out within daylight hours to avoid the need for construction lighting which may illuminate foraging and commuting routes. Care will be taken to retain the eastern site boundary vegetation as a dark corridor for these (and other) species of bat in the long-term. This will be achieved through no installation of external lighting that illuminates this hedgerow. Lighting that is necessary across the rest of the site will be sensitively designed so that disturbance to foraging and commuting bats is minimised as much as possible.

To achieve this, guidance on bats and artificial lighting will be followed (Bat Conservation Trust, 2018). External lighting will comprise hooded luminaires, ideally the bulbs will be LED and at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife. The lighting on the outside of the new building will be motion-activated and task related, associated with specific entrance/exit points. The lux level will be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels published by the Chartered Institution of Building Services Engineers (CIBSE) (CIBSE, 2002) will be followed.

5.3.3 Significance of Residual Effects

Assuming the implementation of the mitigation measures outlined above, no residual effects on designated sites or their designating features are anticipated as a result of these proposals.

5.3.4 Compensation

No compensatory measures are required.

5.3.5 Enhancement

Enhancement measures for bats such as those that are designating features of the Singleton and Cocking Tunnels SAC are described in Paragraph 5.5.5.

5.3.6 Monitoring

No future monitoring of the site is required.

5.4 Habitats

5.4.1 Potential Impacts and Effects

The majority of the semi-improved grassland habitat will be cleared to facilitate the development and the cypress trees at the northern boundary of the site will need to be removed. Given the assessment of these habitats as being of negligible importance, their loss does not represent a significant impact. The vegetation at the eastern boundary comprising scrub, hedgerow and trees is due to be retained, however there is a possibility that this boundary vegetation may become damaged or degraded during the construction phase through use of machinery within the vicinity and root compaction, in particular the large oak tree (TN1).

5.4.2 Mitigation Measures

To address the potential impacts identified above, all boundary vegetation along the eastern site boundary will be sufficiently protected during the construction phase. All works follow protective measures in line with BS 5837:2012 *Trees in Relation to Design, Demolition and Construction* (BSI, 2012). This document outlines the use of tree protection barriers to be used for the duration of the construction phase. These barriers will shield boundary vegetation along the eastern boundary including, in particular the large oak (TN1) from damage during construction.

5.4.3 Significance of Residual Effects

Assuming the implementation of the mitigation measures outlined above, there will be no residual effects on habitats on site as a result of the proposals.

5.4.4 Compensation

No compensatory measures are required.

5.4.5 Enhancement

Communal amenity areas of the development will be sown with a native species lawn mix such as Emorsgate EL1 flowering lawn mixture that contains a range of grasses and wildflowers that respond well to regular mowing. The area in the north-western corner of the site will be utilised as a wildlife area where a species-rich grassland will be created with varying grass heights. This area will be sown with Emorsgate EM1 general purpose meadow mixture (or a similar mix) that contains a diversity of grasses and wildflowers and will be managed with selective cutting to provide habitat suitable for a range of protected species.

Approximately 30 new trees are due to be planted across the site. These will be native species including oak, willow, silver birch *Betula pendula* and beech *Fagus sylvatica* and not cultivars.

Native species planting will also enhance the site. Low level planting will include a mixture of flowering plants and shrubs. Flowers will vary in colour to attract a wide variety of insects such as small scabious *Scabiosa columbaria*, red campion *Silene dioecian*, pansy *Viola tricolor* and valerian *Valeriana* species amongst others. Some non-native species will also be beneficial such as verbena *Verbena bonariensis*, lavender *Lavandula* species and *Salvia* species.

Lastly, the eastern boundary hedgerow will be bolstered via additional planting to plug gaps in the vegetation and hedgerow planting will also take place along the western, southern and northern site boundaries. Species will include hawthorn, field maple *Acer campestre*, hazel *Corylus avellana* and dogwood *Cornus sanguinea* to produce a bushy structure and improve habitat connectivity around the site and into the wider landscape.

The pre-application response received from Arun District Council highlighted the request for a Biodiversity Enhancement Plan in relation to this scheme. Habitat enhancements suggested above including wildflower planting and carefully managed grassland will be included within this Biodiversity Enhancement Plan.

5.4.6 Monitoring

No future monitoring of habitats on site is required.

5.5 Bats

5.5.1 Potential Impacts and Effects

The hedgerow along the eastern boundary will be retained, therefore there will be no habitat severance for bats including barbastelle and Bechstein's bat (designating features of the Singleton and Cocking Tunnels SAC, see Paragraph 5.3.1).

In the absence of mitigation, however, it is possible that lighting used during construction and new external lighting installed as part of the scheme may illuminate boundary vegetation and cause disturbance to foraging and commuting bats including barbastelle and Bechstein's bat, if present.

5.5.2 Mitigation Measures

Construction related activities will be carried out within daylight hours to avoid the need for construction lighting which may illuminate foraging and commuting routes. The eastern hedgerow will be maintained as a dark corridor for bats in the long-term by ensuring that no external lighting installed as part of the scheme illuminates this hedgerow. Lighting that will be necessary across the rest of the site should be sensitively designed so that disturbance to foraging and commuting bats is minimised as much as possible (see Paragraph 5.3.2 for further details).

5.5.3 Significance of Residual Effects

Assuming that the mitigation measures above are implemented, no residual effects on bats are anticipated as a result of the proposals.

5.5.4 Compensation

No compensatory measures are required.

5.5.5 Enhancement

The site will be enhanced for bats via provision of two bat boxes installed on retained trees within the eastern hedgerow such as Vivara Pro Woodstone Bat Boxes (or similar designs) and two artificial bat roost units within the newly constructed medical centre building such as Woodstone Build-In Bat Tubes (or similar). Bolster planting within the eastern hedgerow as well as new hedgerow planting along the other site boundaries will also result in an enhancement for bats at the site. New landscaping will include flowering shrubs to attract insect prey and native tree species. These enhancement measures would be included within the aforementioned Biodiversity Enhancement Plan.

5.5.6 Monitoring

No future monitoring of the site in relation to bats is required.

5.6 Badger

5.6.1 Potential Impacts and Effects

There are no badger setts present on site therefore the proposals will not result in killing/injury of badger or damage to setts which are protected under the Protection of Badgers Act 1992. If any barriers such as close board fencing are installed on any of the site boundaries (aside from the western boundary which is already fenced), this would result in habitat fragmentation for badger, preventing individuals from entering the site to forage.

5.6.2 Mitigation Measures

The eastern boundary will remain permeable to badger and other animals. Where fencing is required, this will be post and rail fencing as opposed to close board fencing to ensure that badger can access the site in the long-term.

5.6.3 Significance of Residual Effects

Assuming the implementation of the above mitigation measures, there will be no residual effects on badger as a result of the proposals.

5.6.4 Compensation

No compensation measures are required.

5.6.5 Enhancement

New hedgerow bolstering and planting and new landscaping will result in an enhancement for badger at the site in the long-term due to an increase in foraging habitat.

5.6.6 Monitoring

No future monitoring in relation to badger is required.

5.7 Hazel Dormouse

5.7.1 Potential Impacts and Effects

In England, hazel dormouse and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is protected under the Conservation of Habitats and Species Regulations 2017 (refer to **Appendix 3** for details). As such, any damage/degradation to the eastern boundary hedgerow has the potential to lead to harm/killing of individual dormouse (if present). The eastern boundary hedgerow is being retained, therefore no habitat severance for hazel dormouse is anticipated.

5.7.2 Mitigation Measures

Mitigation measures will be implemented at the site to ensure impacts on hazel dormouse are avoided in accordance with the mitigation hierarchy. The hedgerow will be protected for the duration of the construction phase via protective fencing, as described in Paragraph 5.4.2. This will ensure that habitat suitable for hazel dormouse and any individuals that may be present are not harmed/disturbed during the construction phase.

5.7.3 Significance of Residual Effects

Assuming the implementation of the above mitigation measures, there will be no residual effects on hazel dormouse as a result of the proposals.

5.7.4 Compensation

No compensatory measures are required.

5.7.5 Enhancement

The site will be enhanced for hazel dormouse through the provision of bolster planting along the eastern hedgerow and new hedgerow planting along the other site boundaries (as described in Paragraph 5.4.5). This would improve habitat connectivity for the species and provide an additional foraging resource. Bolster planting will take place in Autumn (October-November) which will coincide with the most suitable planting season, avoid disturbance to nesting birds and avoid disturbance to hazel dormouse when they are at their most vulnerable (when females are pregnant, when

young have recently been born or when individuals are in deep hibernation). These enhancement measures would be included within the aforementioned Biodiversity Enhancement Plan.

5.7.6 Monitoring

No future monitoring in relation to hazel dormouse is required.

5.8 Birds

5.8.1 Potential Impacts and Effects

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (refer to **Appendix 3** for details). If tree removal is carried out during the breeding season of March to August inclusive, it is possible that nesting birds and their eggs/young may become harmed or injured, causing an offence.

5.8.2 Mitigation Measures

In order to avoid the potential constraints outlined above, tree removal should be undertaken outside of the breeding season of March to August inclusive. If this is not possible, an ecologist should be present immediately prior to removal to check the trees. Any active nests should be left with a suitable buffer until nesting ends naturally to avoid harm to nesting birds and their young and to prevent an offence from being committed.

5.8.3 Significance of Residual Effects

Assuming the implementation of the above mitigation measures, there will be no residual effects on breeding birds as a result of the proposals.

5.8.4 Compensation

No compensatory measures are required.

5.8.5 Enhancement

New hedgerow and tree planting as described in Paragraph 5.4.5 will result in an enhancement for birds at the site. In addition, five artificial nest boxes will be installed on retained trees within the eastern boundary hedgerow or incorporated into the newly constructed medical centre building. These will comprise a combination of Vivara Pro Seville/Barcelona Woodstone nest boxes, swift bricks and sparrow terrace boxes. These enhancement measures would be included within the aforementioned Biodiversity Enhancement Plan.

5.8.6 Monitoring

No future monitoring in relation to breeding birds is required.

5.9 Other Relevant Species

5.9.1 Potential Impacts and Effects

If barriers such as close board fencing is installed this would prevent European hedgehog and other animals from accessing the site in the long term. European hedgehog is recognised as Species of Principal Importance under the NERC Act 2006 (refer to **Appendix 3** for details). The eastern hedgerow is due to be retained so will continue to provide suitable foraging and commuting habitat for the species in the long-term.

5.9.2 Mitigation Measures

The eastern boundary will remain permeable to European hedgehog and other animals. Where fencing is required, this will be post and rail fencing to ensure that European hedgehog can access the site in the long-term.

5.9.3 Significance of Residual Effects

Assuming the implementation of the above mitigation measures, there will be no residual effects on European hedgehog as a result of the proposals.

5.9.4 Compensation

No compensatory measures are required.

5.9.5 Enhancement

Hibernacula will be created from felled cypress tree limbs which will be stacked at the eastern site boundary and existing brash piles will be relocated to provide additional hibernation and refuge features for hedgehog and other species.

5.9.6 Monitoring

No future monitoring in relation to hedgehog is required.

5.10 Cumulative Effects

Assuming that the mitigation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

6.0 CONCLUSIONS

6.1 Conclusion

The most notable habitats recorded on the site comprise the hedgerow with trees present along the eastern site boundary. The site is also assessed as having suitability for supporting foraging and commuting bats, badger, hazel dormouse, breeding birds, and hedgehog.

Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed including sensitive working hours and methods during the construction phase, implementation of protective fencing along the eastern site boundary and a sensitive lighting strategy post-development in relation to bats. Post-development, no residual or cumulative impacts are anticipated. The site will be enhanced through provision of new bat roosting features, new hedgerow planting and bolster planting, new tree planting and landscaping, provision of bird nest boxes and creation of natural hibernacula. As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including those relevant policies with the Arun District Local Plan and the NPPF (see Section 2.0).

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

7.0 REFERENCES

Applied Ecology, 2016a. *The Croft Medical Centre, Eastergate, West Sussex - Ecology Report*, Cambridge: Applied Ecology.

Applied Ecology, 2016b. *The Croft Medical Centre, Eastergate, West Sussex - Reptile Survey Report*, Cambridge: Applied Ecology.

Bat Conservation Trust, 2018. *Bats and Artificial Lighting in the UK: Bats and the Built Environment Series. Guidance Note 08/18*, London: Bat Conservation Trust.

BSI, 2012. *BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations*, London: BSI.

CIBSE, 2002. *Lighting Guide 6: The Outdoor Environment, Code for Lighting*, UK: Butterworth-Heinemann.

CIEEM, 2017. *Chartered Institute of Ecology and Environmental Management Website*. [Online]
Available at: www.cieem.net

CIEEM, 2017. *Guidelines for Ecological Report Writing*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2017. *Guidelines for Preliminary Ecological Appraisal*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2018. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Winchester: Chartered Institute of Ecology and Environmental Management.

Collins, J., 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd ed. London: Bat Conservation Trust.

DEFRA, 2019. *Multi-Agency Geographic Information for the Countryside (MAGIC) Map Application*. [Online]
Available at: www.defra.magic.gov.uk

ECOSA, 2021. *The Croft Medical Centre, Eastergate - Preliminary Ecological Appraisal. Final document dated 11th May 2021*, North Baddesley: ECOSA.

English Nature, 2001. *Great Crested Newt Mitigation Guidelines*. Peterborough: English Nature.

Froglife, 2015. *Surveying for Reptiles: Tips, techniques and skills to help you survey for reptiles*, Peterborough: Froglife.

JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. Peterborough: Joint Nature Conservation Committee.

Ratcliffe, D., 1977. *A Nature Conservation Review*. Cambridge: Cambridge University Press.

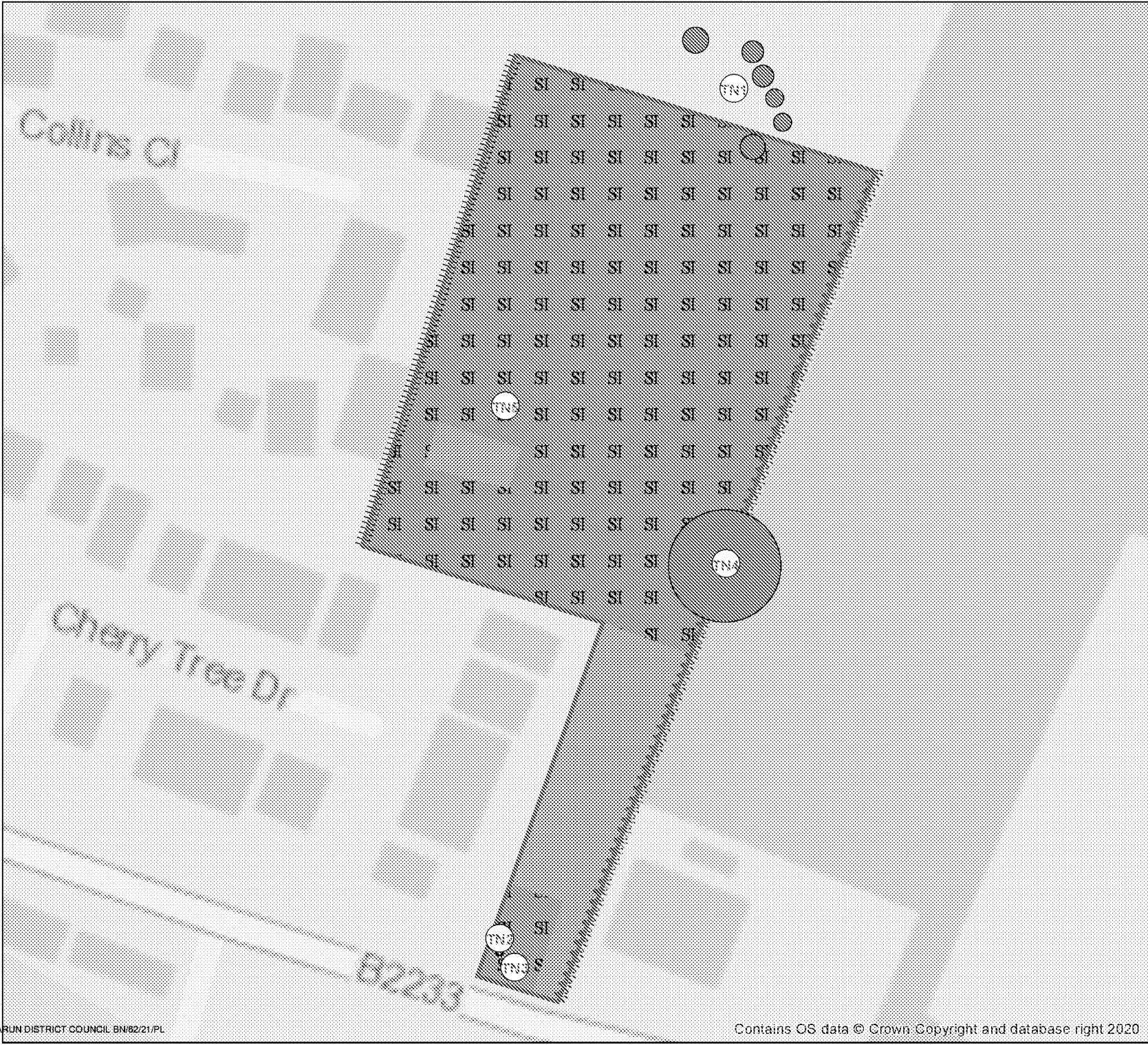
South Downs National Park Authority, 2018. *Sussex Bat Species Area of Conservation - Planning and Landscape Scale Enhancement Protocol*, s.l.: Natural England.

Map 1 Site Location Plan



© This map is the copyright of Ecological Survey & Assessment Ltd.
Any unauthorised reproduction or usage by any person is prohibited.

Map 2 Phase 1 Habitat Map



**THE CROFT MEDICAL CENTRE,
BARNHAM ROAD, EASTERGATE
WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Map 2 - Phase 1 Habitat Map

Client:	PHP Primary Care Developments
Date:	July 2021
Status:	Draft

KEY

- Site Boundary
- Target Notes
- Scattered Trees
- Semi-Improved Grassland
- Hardstanding
- Hedgerow with Trees
- Fence Line

Scale at A4: 1:950
0 5 10 20 Metres



Prepared by: HB	Date: 120721
Last amended by:	Date:

ECOSA
Ecological Survey & Assessment



© This map is the copyright of Ecological Survey & Assessment Ltd.
Any unauthorised reproduction or usage by any person is prohibited.

Map 3 Reptile Survey



**THE CROFT MEDICAL CENTRE,
BARNHAM ROAD, EASTERGATE
WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Map 3 - Reptile Survey

Client:	PHP Primary Care Developments
Date:	July 2021
Status:	Draft

KEY

-  Site Boundary
-  Wider Ownership Boundary
-  Location of Reptile Refugia

Scale at A4: 1:1,500
0 15 30 60 Metres



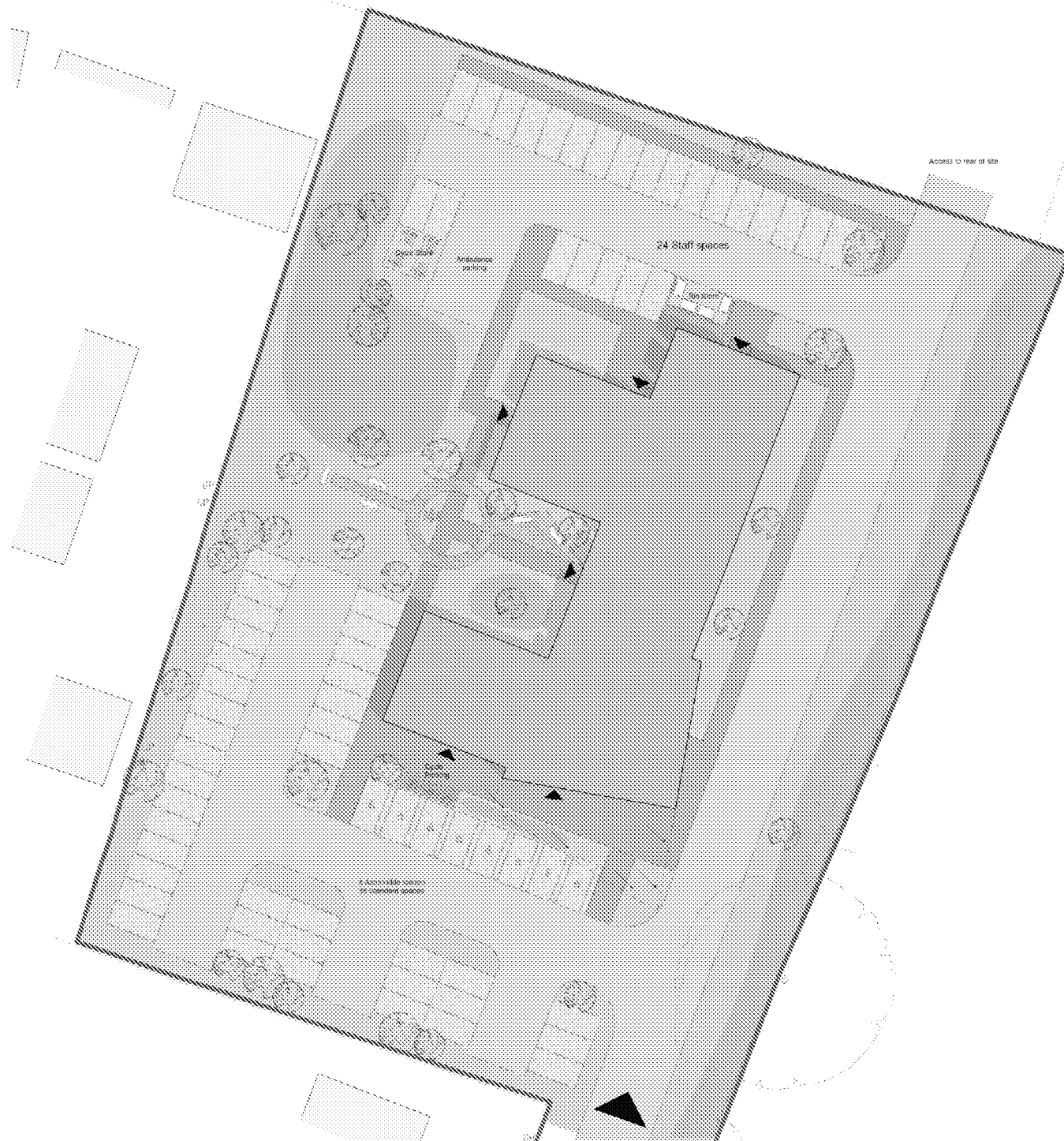
Prepared by: HB	Date: 120721
Last amended by:	Date:

ECOSA
Ecological Survey & Assessment

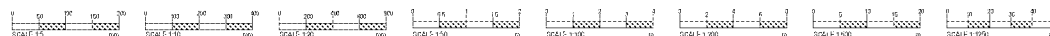


© This map is the copyright of Ecological Survey & Assessment Ltd.
Any unauthorised reproduction or usage by any person is prohibited.

Appendix 1 Proposed Site Layout



Proposed Site Plan
1:500



OTHER THAN FOR THE PURPOSES OF PLANNING, THIS DRAWING IS NOT TO BE USED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN AUTHORITY OF THE DESIGNER. THE DESIGNER IS NOT RESPONSIBLE FOR ANY DAMAGE OR LOSS OF ANY KIND ARISING FROM THE USE OF THIS DRAWING FOR ANY OTHER PURPOSES.



Parking:
08 Accessible spaces
36 Public spaces
24 Staff spaces
70 Total Parking Spaces

*Allowance for ambulance space

Notes:
Drawing is based on information on information provided by Hampshire Land Survey Ltd Ref: HLS 1142_05_04_01.
Boundary line is indicative and subject to confirmation.
This drawing is indicative with regards to site landscaping and is subject to design development. The proposals indicated are for planning purposes only & are subject to all relevant statutory approvals, including building regulations.

Drawn by: Date: Description: By: Date:

PRELIMINARY

Site:

Project number:

Client/Consultant:



65A NEW STREET
LYNDSEY
HAMPSHIRE
SO41 1BE
T: 01429 255791
F: 01429 255792
E: s.r.lidder@stephenr.lidder.co.uk

THE CROFT MEDICAL CENTRE
BARNHAM ROAD
EASTERGATE
WEST SUSSEX PO20 3RP

PROPOSED SITE PLAN

Drawn by: P1 015	Date: 11/01/2020	Checked by: P1 015	Scale: 1:500
Drawn by: P1 015	Date: 11/01/2020	Checked by: P1 015	Scale: 1:500

8225-P004

Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on SPAs, SACs or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a SPA, SAC or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Non-Statutory Sites

Locally Designated Sites

In addition to statutory designations, local authorities often designate sites of nature conservation importance at the local level. Such designations are named differently by each local authority and may be referred to as Local Wildlife Sites (LWS), Sites of Importance for Nature Conservation (SINC) or Sites of Nature Conservation Importance (SNCI), amongst others. The exact level of protection afforded to these sites varies and is normally defined through local planning policy.

Appendix 3 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
 - To impair its ability to survive, breed, or rear or nurture their young;
 - To impair its ability to hibernate or migrate;
 - To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Hazel Dormouse

This species is listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely, to impair its ability to survive, breed, or rear or nurture their young, to impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any one of these species uses for shelter or protection.

Badger

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

- Kill, injure or take a badger;
- Attempt to kill, injure or take a badger; or
- To damage or interfere with a sett.

The 1992 Act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'.

Water vole

The water vole is listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill, injure, or take (handle) a water vole;
- Intentionally or recklessly damage or destroy or obstruct access to any structure or place which water voles use for shelter or protection; or
- Intentionally or recklessly disturb water voles while they are using such a place.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

Appendix 4 Protected and Notable Species Appraisal Methods

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as holes, cracks, splits, loose bark and ivy cladding.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

Hazel Dormouse

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.3), and their suitability to be used as a network.

Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England

Biodiversity List, and Local Biodiversity Action Plan (LBAP) species⁹, specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

⁹ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 2**¹⁰.

Table 2: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
Moderate	A structure of tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch or scrub.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

¹⁰ Table adapted from (Collins, 2016)