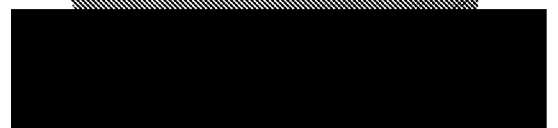
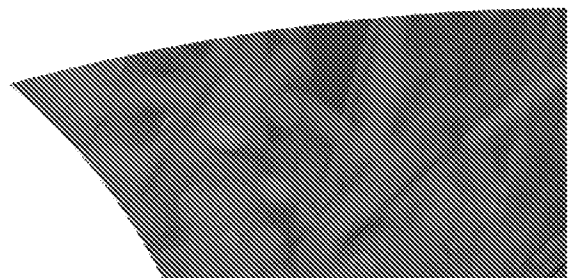




Preliminary Ecological Appraisal

Barnham Road

April 2020



Preliminary Ecological Appraisal

Barnham Road, Eastergate

15/04/2020

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Non-technical Summary

Phlorum Ltd was commissioned by Landacre (Eastergate) Ltd. to undertake a Preliminary Ecological Appraisal which was carried out at Barham Road, Eastergate on the 5th September 2019, in order to determine whether any ecological constraints could affect the proposed works for the site.

Current proposals are not yet confirmed. The survey area extended over approximately 1.8 hectares (ha).

The main findings of the surveys are as follows:

- ☛ The closest statutory designated site is South Downs National Park, located 2.1km north. Eartham Pit Site of Special Scientific Interest (SSSI) is located 4km north-west. There are no statutory sites within 2km of the proposed development. The closest statutory designated site is the designated verge at Barnham Road, Eastergate, which is 220m west of the site. Fontwell Park Racecourse Local Wildlife Site (LWS) is 1.2km north of the site.
- ☛ Habitats on site include hardstanding, improved grassland, ruderal vegetation, introduced planting, trees and hedges, and compost heaps. The vast majority of the site was horse grazed improved grassland.
- ☛ The site offers suitable habitat for breeding reptiles and birds, and foraging great crested newt and badger, and these may pose a constrain to work.
- ☛ It is recommended that surveys are undertaken to assess if and how reptiles and great crested newt are using the site.
- ☛ It is also recommended that a precautionary approach to site clearance and development should be sufficient to safeguarding breeding birds and foraging badger.
- ☛ Further information on precautionary working practices and additional surveys together with recommended mitigation and enhancement measures are discussed in Section 5.

1. Introduction

Background

- 1.1 Phlorum Ltd has been commissioned by Landacre (Eastergate) Ltd. to undertake a Preliminary Ecological Appraisal, to inform the potential ecological constraints of proposed future development of Land at Barnham Road, Eastergate (hereafter referred to as "the site").
- 1.2 The purpose of the Preliminary Ecological Appraisal was:
 - ❖ to identify the major habitats present;
 - ❖ to identify the potential for any legally protected species to be present; and
 - ❖ to recommend any additional ecological surveys, if required.
- 1.3 As part of the assessment, a desktop review and a site visit were carried out. The results of which were used to assess the nature conservation importance of the site and the potential of the site to support protected species.
- 1.4 Recommendations for further ecological surveys are made at the end of the report.
- 1.5 This report has been compiled in accordance with current guidelines (British Standard 42020:2013 Biodiversity. Code of Practice for Planning and Development, 2013 and CIEEM, 2017 and 2018).
- 1.6 It is understood that the proposed development has not yet been confirmed.

Site Description

- 1.7 The site comprised of improved hardstanding, grassland, ruderal vegetation, introduced planting hedges and trees, and compost heaps.
- 1.8 The National Grid Reference for the centre of the site is SU 94924 05101. The survey area extended over approximately 1.8 hectares (ha).

2. Methodology

Desk Study & Consultations

- 2.1 The desktop study involved conducting database searches for statutory and non-statutory designated sites, legally protected species and features of interest within a 2km radius of the site. The data search was based on available information provided by the following sources:
- ❖ Sussex Biodiversity Records Centre, (2019);
 - ❖ Multi-Agency Geographical Information for the Countryside (MAGIC, 2019);
 - ❖ Ordnance Survey mapping; and
 - ❖ Aerial photography.

Habitat Survey and Assessment

- 2.2 Phlorum Limited carried out an ecological survey of the site on 5th September 2019. The survey was carried out by a suitably qualified ecologist, Charley Scales who has over 2 years professional experience of undertaking ecological surveys. The weather conditions during the survey were dry and sunny.
- 2.3 The field survey comprised a walkover inspection of the land and habitats present. The survey followed standard Phase 1 survey methodology (JNCC, 2010) and covered all accessible parts of the site, including boundary features. Habitats were described and mapped (Figure 1: Appendix A). A list of plant species was compiled, together with an estimate of abundance made according to the DAFOR scale (Appendix D).
- 2.4 This assessment provides information on the habitats in the survey area and identifies actual or potential presence of legally protected or otherwise notable species/habitats in or immediately adjacent to the site.
- 2.5 Target notes highlighting a particular feature of ecological interest are provided in Appendix B, with associated photographs.
- 2.6 Scientific names are given after the first mention of a species, thereafter, common names only are used. Nomenclature follows Stace (2010) for vascular plant species.

Protected Species Assessment

- 2.7 The potential for the site to provide habitat for protected species was assessed from field observations in conjunction with results of the desk study. The site was inspected for indications of the presence of protected species including:
- ❖ Habitat considered suitable to support widespread reptile species including areas with a scrub/grassland mosaic and potential hibernation sites;

- ☛ On-site ponds offering potential breeding opportunities for great crested newt (*Triturus cristatus*) and the presence of suitable terrestrial habitat including hedgerows and rough grassland;
 - ☛ The presence of features in, and on trees, indicating potential for roosting bats Chiroptera, including knot and rot holes, loose bark. Secondary evidence of bats including staining, droppings and feeding remains were also looked for;
 - ☛ The presence of nesting habitat for breeding birds, including mature trees, dense scrub and hedgerows and direct evidence of bird nesting including bird song, old nests etc.;
 - ☛ Habitats considered suitable to support badger (*Meles meles*) setts, and evidence in the form of hair, pathways and latrines;
 - ☛ Presence of woodland and or hedgerows providing suitable habitat to support hazel dormouse (*Muscardinus avellanarius*); and
 - ☛ Riparian habitat supporting suitable features for water vole (*Arvicola amphibius*) and otter (*Lutra lutra*).
- 2.8 The potential presence for protected species is categorised as **Negligible, Low, Moderate, High** or **Present**, based on the findings of the field survey and on the evaluation of existing data.
- 2.9 The purpose of this assessment is to identify whether more comprehensive Phase 2 surveys for protected species or mitigation should be recommended.

Caveat

Data Search Constraints

- 2.10 It is important to note that, even where data is held, a lack of records for a defined geographical area does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

Survey Constraints

- 2.11 Ecological surveys are limited by factors that affect presence of plants and animals such as seasonality. Whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the environment.
- 2.12 The survey was carried out late in the growing season and therefore many species may not have been visible above ground or readily identifiable.

- 2.13 The appraisal does not constitute a full botanical survey, or a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species. This survey provides a preliminary view of the likelihood of protected species occurring on the site based on the suitability of the habitat, known distribution of the species in the local area and any direct evidence on the site. It is therefore used as a tool to recommend further protected species surveys (or other species of significant nature conservation interest) if on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that protected species may be present.
- 2.14 It is however considered that the survey was sufficiently rigorous to assess the ecological value of the site.

Limitations

- 2.15 This appraisal also does not constitute as a full invasive species survey. All surveys are subject to the conditions on site at the time of the survey. Site surveys are non-intrusive and rely on the visual identification of aboveground growth. If parts of a site are inaccessible then these areas can often not be surveyed, unless they can be viewed from other areas. If any aboveground growth is being managed or has been disturbed or covered, or the below ground growth is dormant, then it may be impossible for us to identify invasive plants in these areas during our non-intrusive survey.

3. Baseline Conditions

Aerial Photography and OS Maps

- 3.1 Aerial photographs show the site is in a predominantly semi-rural area, surrounded by land used for horticulture, agriculture and housing.

Statutory and Non-Statutory Designated Sites

Statutory Sites

- 3.2 The closest statutory designated site is South Downs National Park, located 2.1km north.
- 3.3 Eartham Pit Site of Special Scientific Interest (SSSI) located 4km north west.
- 3.4 There are no statutory sites within 2km of the proposed development.

Non-statutory Sites

- 3.5 The closest non-statutory designated site is the designated verge at Barnham Road, Eastergate, which is 220m west of the site. Fontwell Park Racecourse Local Wildlife Site (LWS) is 1.2km north of the site.

Habitats

Site Summary

- 3.6 The main habitats recorded within the site are described below. Additional details are shown on the habitat survey plan in Appendix A, and the target notes are listed in Appendix B.

Hardstanding

- 3.7 In the north of the site a hardstanding area used as a driveway was used to access the site (see Photograph 1 in Appendix B). Other small areas of hardstanding were present through the site.

Improved Grassland

- 3.8 The majority of the site was dominated by improved grassland (see Photograph 2, Appendix B). Much of this was grazed by horses which were seen on the site. Some was un-grazed and long. Species seen included perennial rye (*Lolium perenne*), white clover (*Trifolium repens*), creeping buttercup (*Ranunculus repens*) and sorrel (*Rumex acetosa*).

Ruderal Vegetation

- 3.9 The edges of the site had areas of ruderal vegetation with species including nettle (*Urtica dioica*), bramble (*Rubus fruticosus* agg.) and, hogweed (*Heracleum sphondylium*) (see Photograph 3 in Appendix B).

Introduced Planting

- 3.10 A planted hedge of conifers was next to the driveway (see Photograph 4 in Appendix B).

Hedges and Trees

- 3.11 The perimeter of the site contained a variety of trees and shrubs grown as a boundary hedge (see Photograph 5, Appendix B). This included hawthorn (*Crateagus monogyna*), rowan (*Sorbus aucuparia*), aspen (*Populus tremula*), willow (*Salix* sp.) and a large yew hedge (*Taxus baccata*) (see Photograph 3 in Appendix B).

Compost Heaps

- 3.12 There were several compost heaps on the site. (See Target Note 1 and Photograph 6 in Appendices A and B)

Protected Species

- 3.13 Legislation relating to the protected species referred to in this section is included in Appendix C.
- 3.14 The following paragraphs detail the suitability of the on-site habitats to support protected species and include information from the data search for protected, rare and otherwise notable species returned within a 2km radius.

Reptiles

- 3.15 The desk study shows that slow worm, common lizard, and grass snake have all been recorded from within 2km of the site in the past 2 years.
- 3.16 The onsite habitats included a mix of vegetation types and basking areas that would be suitable for reptiles. The compost heaps seen on site (Target note 1 in Appendices A and B) would have provided suitable areas for grass snake and slow worm to reproduce.
- 3.17 Overall it was considered that the site offered a **high** potential for supporting breeding reptiles.

Amphibians

- 3.18 The data search shows that great crested newts have been recorded less than 2km from the site in the past year. The OS map shows that there are three potential ponds within 300 meters of the site.
- 3.19 No ponds were seen on the site. However, the habitat on site offered potential for foraging and commuting for terrestrial stages of great crested newt.

- 3.20 It is considered that site offers **negligible** potential for breeding newts and **moderate** potential for foraging newts.

Bats

- 3.21 The data search shows that members of the bat genera; long eared (*Plecotus*), pipistrelle (*Pipistrellus*), noctule (*Nyctalus*), serotine (*Eptesicus*) and *Myotis*, have all been recorded from within 2 km of the site in the past year.
- 3.22 No suitable potential roosting features were seen on the site. The trees present were too small to have developed cavities. There were no buildings on the site. The site offered suitable habitat for commuting and foraging bats.
- 3.23 Overall the site offered **low** potential for roosting bats, particularly for the boundary trees, and **moderate** potential for commuting and foraging bats.

Birds

- 3.24 A number of Red or Amber listed Birds of Conservation Concern¹ (BoCC), and notable² bird species were returned by the data search and may utilise habitats within the site. Species recorded include cuckoo (*Cuculus canorus*) and Willow warbler (*Phylloscopus trochilus*).
- 3.25 The survey showed that the site contains suitable habitat to support a range of breeding and foraging birds.
- 3.26 Overall the site was considered to offer **high** potential to support breeding birds, and **high** potential to support foraging birds.

Badger

- 3.27 Records for this species are kept confidentially and were not returned by the data search.
- 3.28 No evidence of badgers was seen during the survey. However, they are mobile animals and the habitat present offered areas suitable for foraging and commuting activity.
- 3.29 Overall the site offered **negligible** potential for breeding badgers and **moderate** potential for foraging and commuting badgers.

Hazel Dormouse

- 3.30 The data search showed that dormice have been recorded breeding in the past year less than 2km away.

¹ Birds of Conservation Concern status is prioritised into high concern (Red), medium concern (Amber) and low concern (Green) (Eaton et al, 2009). Red-list species are those that are globally threatened according to the IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and have not shown a substantial recent recovery. Amber-list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations. Green-list species are those that fulfil none of the criteria.

² Notable Birds are based on a list of birds that are particularly scarce or vulnerable either at national or a regional level. The majority of these bird species are designated as Schedule 1 species, under the Wildlife and Countryside Act 1981 (as amended), or listed as red or amber-listed BoCC.

- 3.31 No evidence of dormice was seen on the survey. The habitat in general was not consistent with the kind favoured by breeding dormice. However, the hedges around the site may enable dormice to commute.
- 3.32 Overall the site provided **low** potential to support breeding dormice.

Invasive Plants

- 3.33 The data search shows that several species listed on schedule 9 of the Wildlife and Countryside Act (1981 Amended). This includes records of variegated archangel (*Lamium galabardon argenteum*) and Indian Balsam (*Impatiens glandulifera*) from within the past 4 years.
- 3.34 *Cotoneaster* was seen on the site. Many species are listed on Schedule 9 and, without identifying it to species level, it should be assumed that the specimens seen on site were potentially invasive.

4. Evaluation

- *****
- 4.1 On the basis of the information available from the habitat survey and desk study, the site has been evaluated in terms of its potential for biodiversity, support of protected species and habitats, and the contribution the area makes as part of the wider landscape. The nature conservation value of the site has been assessed following standard criteria developed by CIEEM (2017 and 2018) and in accordance with BS 24040:2013. This is provided below.
 - 4.2 The biodiversity value of protected species within the site is a preliminary evaluation based upon the desk study records, habitat suitability and the conservation status of the species in question. It should be noted that where European Protected Species (EPS) or species of Principle Importance for the Conservation of Biodiversity are present on-site they may be valued at a lower level/scale where it is considered likely that populations would not be of sufficient importance to justify designation at a higher level. However, regardless of their biodiversity value, such species are still subject to national and/or European legislation.
 - 4.3 Key aspects of relevant planning policy regarding conservation, including an explanation of species referred to as being of 'Principal Importance for Conservation of Biodiversity' and European Protected Species and habitats, are provided in the Legislation section in Appendix C.

Geographic Evaluation

Features of International Importance

- 4.4 Features of International Importance are principally sites covered by international legislation or conventions. The Conservation of Habitats and Species Regulations 2017 (as amended) implements the Natural Habitats and Wild Fauna and Flora (92/43/EC) (Habitats Directive) in England and Wales. The Regulations mainly deal with the protection of sites with certain habitats and populations of species that are important for nature conservation in a European context, i.e. Special Areas of Conservation (SAC's) and Special Protection Areas (SPA's).
- 4.5 The site is not subject to any international statutory nature conservation designations. The closest site of International Importance is Solent and Dorset Coast SPA located 5.6 km to the south. The site does not provide any supporting habitat for this designated site.

Features of National Importance

- 4.6 Features of national importance include SSSIs which are designated under the Wildlife and Countryside Act 1981 (as amended). The site is not subject to any national statutory nature conservation designations and it is not considered that any habitats or populations or assemblages of species within the site would meet the criteria for the designation of SSSIs at an appropriate geographic level³.
- 4.7 The closest site of national importance for nature conservation is Eartham Pit Site of Special Scientific Interest (SSSI) located 4km north west. The site does not provide any supporting habitat for this statutory designated site.

Features of Regional (i.e. Sussex) Importance

- 4.8 The site does not include any features of value at this level neither is it likely to be selected as a SNCI based on the results of the current survey.

Features of District (i.e. Chichester) Importance

- 4.9 The site is relatively small and does not support any features that were considered to be of value at this level.

Features of Local (i.e. Barnham) Importance

- 4.10 The site does not support any features that were considered to be of value at this level.

Features of Value Immediate Vicinity (c. 250m) of the Project

- 4.11 The on-site trees and hedges, ruderal vegetation and compost heaps are of value within the immediate vicinity and provide suitable habitat to support protected species including reptiles and breeding birds, and commuting and foraging birds, bats, amphibians and badgers.

Summary

- 4.12 Overall on the basis of the survey results and the above criteria, habitats within the site are considered largely to be of ecological value within the immediate vicinity only. The site provides suitable habitat to support several protected BAP species and groups including widespread reptiles, breeding birds and bats. However, populations of these are unlikely to be locally significant.

Local Plan Evaluation

- 4.13 It is considered that the statutory Arun Local Plan 2011-2031 (Adopted 2018) contains the following nature conservation policies relevant to the site. A summary of these policies is provided below.

³ JNCC Guidelines for selection of biological SSSIs (see <http://jncc.defra.gov.uk/page-2303#download>).

Arun Local Plan (Adopted 2018)

17.4 Development & biodiversity

17.4.1 All development should enhance the biodiversity of the site and the surrounding area by creating new habitats or improving existing ones. In certain circumstances, a new resource should be provided which is of at least equivalent value, where possible, to a site or feature which is lost as a result of development. This could include the creation of a new habitat on the site or elsewhere if this is more appropriate. However, in general, the loss of habitats should be strongly resisted.

17.4.2 All redevelopment/refurbishment schemes and the existing historic structures and habitats affected by development, should be screened for use by protected species (such as bats) if these opportunities are known or believed to be so used. There can often be no obvious signs that these species are present, and as a result it may require expert knowledge and experience to be able to determine their presence.

Policy ENV DMS

Development and biodiversity

Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement.

Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person. All developments shall have regard to Natural England's standing advice for protected species.

5. Discussion and Recommendations

- *****
- 5.1 The survey site is located Barnham Road, Eastergate. The survey area extended over approximately 1.8 hectares (ha). Habitats to be impacted by the development proposals include hardstanding, improved grassland, trees and hedges, introduced planting and compost heaps. The majority of the site was horse grazed improved grassland.
 - 5.2 Design proposals are not confirmed at this stage.
 - 5.3 Habitats within the proposed development area were assessed as being of value to wildlife with the local vicinity with potential to support breeding reptiles and birds, and foraging great crested newts, badger, birds and bats and these species may pose a constraint to works.
 - 5.4 It is recommended that targeted surveys in respect to reptiles and great crested newts are undertaken. If any mature trees are scheduled to be felled then we recommend that a preliminary bat roost assessment is carried out on them first.
 - 5.5 In addition, a precautionary approach to clearance and development in respect to breeding birds and badgers is recommended to minimise any adverse impacts on this species group.
 - 5.6 Details regarding specific mitigation, including further surveys and precautionary working practices together with habitat enhancement measures are provided below.

Recommendations

Breeding Birds

- 5.7 The on-site scattered trees and scrub provide suitable nesting habitat for a range of bird species. All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).
- 5.8 In order to avoid any potential impact on breeding birds, the clearance of any trees or scrub should be undertaken outside the main bird nesting season which runs from March to August inclusive⁴, with clearance works possible between September and February. Where this is not possible, an ecologist would need to check the vegetation for active nests and signs of bird breeding activity.
- 5.9 In the event that a nest is found, an exclusion zone around the nest would be established. Works would have to cease within this buffer area until the young birds have fledged.

⁴ It should be noted that this is the main breeding period. Breeding activity may occur outside this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

Great Crested Newts

- 5.10 Great crested newts receive protection under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (as amended). Due to the potential for great crested newts to use on-site habitats, a great crested newt survey should be carried out to determine presence/ likely absence and if present, the survey will enable a population assessment to be made.
- 5.11 Where possible, all ponds within 500m of the site, should be included in the survey. The survey protocol should follow that set out in the Great Crested Newt Mitigation Guidelines (English Nature, 2001). An initial four surveys are required to demonstrate presence or absence and these must be carried out between mid-March and mid-June with two of those visits taking place within the peak survey time between mid-April and mid-May.
- 5.12 If great crested newts are found to be present, an additional two survey visits will then be required to allow a population size class assessment to be made, with at least one of these visits being undertaken within the peak survey time between mid-April and mid-May.
- 5.13 The results of the survey should then be used to inform mitigation proposals for this species.
- 5.14 If great crested newts are found to be present in the locality following the survey, a European Protected Species Mitigation Licence from Natural England may be required to remove terrestrial habitat in order to facilitate the works. Once submitted, a licence application can take up to 30 days to be processed. Natural England will only grant a licence once planning permission has been received.
- 5.15 As part of the licence application, a Method Statement will need to be submitted to guide works in relation to this species. If individuals are found to be using the site, suitable compensation measures to mitigate for losses to any habitat will be required in addition to undertaking a formal translocation to ensure individuals are not present within the development footprint. This process will involve fencing the development area and trapping and relocating newts over a number of weeks.

Badger

- 5.16 Badgers receive protection under The Protection of Badgers Act 1992. No evidence of badgers was seen on the site, however, it offered suitable habitat for foraging. A precautionary approach to works should be sufficient to safeguard this protected species.
- 5.17 The contractors must be made aware of the potential for foraging badgers on site.
- 5.18 All trenches should be covered at night or if this is not possible, ramps must be installed into the trenches to enable badgers to escape should they enter the excavations. All materials must be stored safely and lids securely fitted.
- 5.19 A tool box talk should be given by a qualified ecologist immediately prior to the start of construction works to discuss the potential for badgers to pass through the site and to provide information on legislation and the ecology of this species.

Bats

- 5.20 Bats receive protection under The Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (as amended).
- 5.21 Different species of bat have been found to react differently to night-time lighting however research has found that generally, all species of bats are sensitive to artificial lighting and that excessive lighting can delay bats from emerging, thus shortening the time available for foraging, as well as causing individuals to move away from suitable foraging grounds or roost sites, to alternative dark areas (Jones, 2000).
- 5.22 If any mature trees along the boundary are required to be felled, then we recommend that a preliminary bat roost assessment is carried out prior to them being felled. Depending on the finding of this survey, additional work including a bat activity surveys and/or an ecological watching brief may be required.
- 5.23 New development provides the opportunity to enhance the site's value for foraging bats and to minimise indirect impacts from lighting associated with the new development. This can be achieved by following accepted best practice (Institute of Ecology and Environmental Management 2006, Institute of Lighting Professionals 2018):
- ❖ The level of any artificial lighting including flood lighting should be kept to a minimum, particularly around the site boundaries and near to hedgerows and tree lines;
 - ❖ Recent LED technology should be utilised where possible. LED lights do not emit UV radiation, towards which insects are attracted, drawing them away from bat foraging areas in the surrounding landscape. Alternatively, low pressure sodium lights could be used. These can be a more cost-effective option compared to LED lights and are the preferred option to high pressure sodium or mercury lamps. All lights should be directed at a low angle with minimal light spillage wherever possible;
 - ❖ Ideally, some parts of the site (boundary habitats) should be kept dark, preferably at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g. 1.5 hours after sunset and 1.5 hours before sunrise). Therefore, where possible, if lighting is required this should be installed with the light directed into the development area wherever possible; and
 - ❖ Artificial lighting should not directly illuminate any potential bat commuting areas such as hedgerows and treelines. Similarly, any newly planted linear features or buffer areas around the site boundary should not be directly lit.

Reptiles

- 5.24 All reptiles are protected under the Wildlife and Countryside Act 1981 (as amended).

- 5.25 The site provides a habitat mosaic and vegetation structure suitable for widespread reptiles therefore a reptile survey would be recommended. This will entail a minimum of seven survey visits, following current guidelines (Froglife, 1999; English Nature, 2004), to determine the presence or likely absence and distribution of reptiles within the site.
- 5.26 Reptile surveys can be undertaken in the active period for reptiles taken to run between mid-March and October. The optimum time is generally late spring, from April to mid-June and in the early autumn during September.
- 5.27 The results of the survey will then be used to inform mitigation proposals for this species group.

Habitat Retention

- 5.28 All retained trees, including all adjacent off-site trees should be protected in accordance with British Standards (BS 2012) 5837:2012 Trees in Relation to Design, Demolition and Construction. The root protection areas of any retained trees must be left free from excavation and disturbance, and protected during any proposed works. Protection should be in the form of fencing and signs installed for the duration of the works.

Habitat Enhancement

- 5.29 New development offers the opportunity for habitat enhancement in accordance with national and local planning policy and some recommendations are included below.

Control of INNS

- 5.30 Although it is not illegal to have species listed under the Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), it is illegal to permit these species to spread and grow in the wild.
- 5.31 We recommend that a member for the Property Care Association Invasive Weed Control Group (PCA IWCG) is contacted to manage the potentially invasive *Cotoneaster* seen on site.

Bird and Bat Boxes and Bricks

- 5.32 Additional bird nesting and bat roosting provision could be incorporated into new design proposals. These could either be installed on trees or incorporated into the new building design. Some recommendations are made below as a guide.
- 5.33 Bat roosting opportunities could be provided through the installation of boxes on the outside of the walls or remaining trees, such as the Schwegler 2F, or other makes of a similar design, such as Chavenage Bat box. There are a range of bat boxes available and these can be selected to suit the development and bat species in the locality.
- 5.34 Bird boxes could be installed on the walls of the new building or in the remaining trees which could include the following Schwegler bird house or 1B makes, or similar designs from alternative suppliers. If the client is happy for bird boxes to be installed on the walls of the new building then a Schwegler sparrow terrace 1SP could also be used.
- 5.35 Further details of the bird and bat boxes are provided in Appendix F.

- 5.36 Bat boxes should be installed at appropriate locations ideally with south-east, south, or south-west facing aspects at least 3m from ground level. Ideally they need to be exposed to 6-8 hours of direct sunlight, but sheltered from strong winds. If installed on the building, these should ideally be positioned directly below the eaves.
- 5.37 Bird Boxes should be located out of prevailing wind, rain, and strong sunlight, ideally with a clear flight path to the entrance. Ideally they should be installed two to four metres from the ground facing north or north-east.

Compensatory Planting

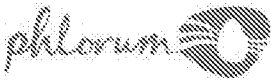
- 5.38 Additional tree and shrub planting could be incorporated into the landscape proposals to compensate for any removal to facilitate the works. Planting should include a high proportion of native species and be of local provenance where possible. These should be carefully selected to ensure they contain species suitable for the area. Some species of known wildlife value are listed in Appendix E.

6. Conclusions

- 6.1 Hardstanding, improved grassland, trees and hedges, introduced planting and compost heaps were seen on site. The majority of the site was horse grazed improved grassland.
- 6.2 The site is not subject to any statutory or non-statutory designations. The closest site of national importance for nature conservation is Eartham Pit Site of Special Scientific Interest (SSSI) located 4km north west.
- 6.3 The following protected species surveys are recommended in order to determine presence or likely absence.
 - ☛ Great crested newt.
 - ☛ Reptile surveys.
- 6.4 If any mature trees are to be felled then a preliminary bat roost assessment will be required of these trees. In addition, a precautionary approach to site clearance and development in respect to breeding birds and badger is recommended to minimise any adverse impacts on this species group.
- 6.5 It has been recommended that the site is enhanced by introducing some compensatory planting and installing bat and bird boxes.

7. References

- ❖ Arun Local Plan (2018). *Arun District Council*. Available from: <https://www.arun.gov.uk/adopted-local-plan/> [Accessed on 07/10/2019].
- ❖ British Standards Institute (2012). 5837:2012. *Trees in Relation to Design, Demolition and Construction – Recommendations*. Standards Policy & Strategy Committee. Milton Keynes: BSI.
- ❖ British Standards Institute (2013). 24040:2013. *Biodiversity-Code of Practice for Planning and Development*. Standards Policy & Strategy Committee. Milton Keynes: BSI.
- ❖ CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal Second Edition*. Chartered Institute of Ecology and Environmental Management, Winchester.
- ❖ CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.
- ❖ Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.
- ❖ Department for Communities and Local Government (2018) *National Planning Policy Framework (NPPF)* (on-line). Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf [Accessed on 04/04/2019].
- ❖ ILP – Institute of Lighting Professionals (2018). Guidance Note 08/18 Bats and artificial lighting in the UK. Bats in the built environment series. ILP and the Bat Conservation Trust [on-line].
- ❖ Joint Nature Conservation Committee (2010). *Handbook for Phase 1 habitat survey - A technique for Environmental Audit*. JNCC, Peterborough.
- ❖ MAGIC - Multi-Agency Geographic Information for the Countryside (2019). *MAGIC* Natural England, Leeds. [on-line]. Available from: www.magic.gov.uk [Accessed on 04/10/2019].
- ❖ Stace, C.A. (2010). *New Flora of the British Isles* (3rd Ed.). Cambridge University Press, Cambridge.
- ❖ Schwegler (2018). *Bird and Nature Conservation Products* [on-line]. Available from <http://www.schwegler-natur.de> [Accessed on 04/04/2019].



8. Glossary of Terms

SAP	Biodiversity Action Plan
BRC	Biological Records Centre
CIEEM	Chartered Institute of Ecology and Environmental Management

Figures and Appendices

Appendix A

Habitat Map

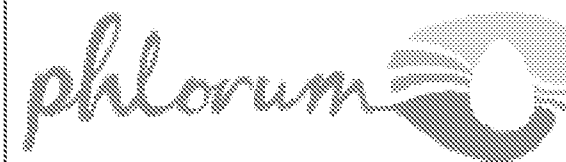


Legend

	Site Boundary
	Areas
	Hardstanding
	Areas
	Improved Grassland
	Areas
	Introduced Planting
	Areas
	Hedge and Trees
	Areas
	Ruderal Vegetation
	Areas
	Compost Heap
	Points

Figure 1: Barnham Road Habitat Survey Map

Drawn by: PC
 On the: 15/04/2020
 Not to Scale
 ARUN DISTRICT COUNCIL BN/153/20/PL
 Ref: 8948



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 Woodingdean, Brighton, East Sussex,
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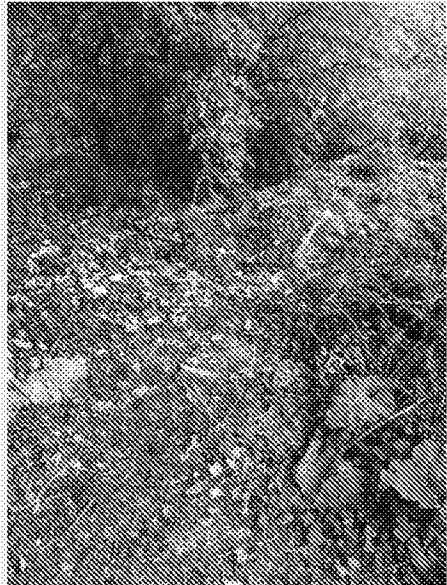
Appendix B

Target Notes and Photographs

Target Notes and Photographs

Target Note (TN)	Feature	Photograph of Feature
	Photograph 1. An area of hardstanding was used as a drive to access the site.	

Target Note (TN)	Feature	Photograph of Feature
	Photograph 3. A large yew hedge transected the site in the northern area. Besides this was a section of ruderal vegetation that was typical of that seen across the site.	
	Photograph 4. A conifer hedge was planted near the drive.	
	Photograph 5. A range of trees and shrubs formed a hedge that bordered the site.	

Target Note (TN)	Feature	Photograph of Feature
3.	Photograph 6. A number of compost heaps were seen on the site.	

Appendix C

Legislation

Legislation

This section contains information pertaining to the legislation and planning policy applicable in Britain. This information is not applicable to Northern Ireland, the Republic of Ireland the Isle of Man or the Channel Islands. Information contained in the following appendix is provided for guidance only.

Species

The objective of the EC Habitats Directive⁵ is to conserve plants and animals which are considered to be rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017 (as amended) (formerly The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) and The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended).

The Wildlife and Countryside Act 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and also implements the obligations set out for species protection from the Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Various amendments have been made since the Wildlife & Countryside Act came into force in 1981. Further details pertaining to alterations of the Act can be found on the following website: www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CRoW) Act (2000) and Nature Conservation (Scotland) Act 2004.

There are a number of other legislative Acts affording protection to species and habitats. These include:

- ❖ Countryside and Rights of Way (CRoW) Act 2000;
- ❖ Deer Act 1991;
- ❖ Natural Environment & Rural Communities (NERC) Act 2006;
- ❖ Protection of Badgers Act 1992; and
- ❖ Wild Mammals (Protection) Act 1996.

Badger

Badgers and their setts are protected under the Protection of Badgers Act (1992), which consolidated and added to the previous Badger Acts of 1973 and 1991. Under this legislation it is an offence to:

- ❖ cruelly ill-treat a badger, including use of tongs and digging;
- ❖ intentionally or recklessly cause a dog to enter a badger sett;

⁵ Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora.

- ☞ intentionally or recklessly damage, destroy or obstruct access to a badger sett⁶ or any part thereof;
- ☞ intentionally or recklessly disturb⁷ a badger when it is occupying a badger sett;
- ☞ possess or control a dead badger or any part of a badger;
- ☞ sell or offers for sale, possesses or has under his control, a live badger; and
- ☞ wilfully kill, injure, take, or attempt to kill, injure or take a badger.

A Development Licence will be required from Natural England for any development works affecting an active badger sett, or to disturb badgers while individuals are occupying the sett. Depending on the nature of the works and the specifics of the sett, badgers could be disturbed by work near the sett even if there is no direct interference or damage to the sett itself. Natural England has issued guidelines on what constitutes a licensable activity. There is no provision in law for the capture of badgers for development purposes and therefore it is not possible to obtain a licence to translocate badgers from one area to another.

Bats

Bats are protected under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). This act protects individuals from:

- ☞ intentional or reckless disturbance (at any level);
- ☞ intentional or reckless obstruction of access to any place of shelter or protection; and
- ☞ selling, offering or exposing for sale, possession or transporting for purpose of sale.

In addition, all species of bat are fully protected under The Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- ☞ deliberate killing, injuring or capturing of Schedule 2 species (all bats);
- ☞ deliberate disturbance of bat species as to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.
- ☞ deliberate disturbance of bat species as to affect significantly the local distribution or abundance of the species;
- ☞ damage or destruction of a breeding site or resting place; and

⁶ A badger sett is defined in the legislation as "*any structure or place which displays signs indicating current use by a badger*". This includes seasonally used setts. Natural England (2009) have issued guidance on what is likely to constitute current use of a badger sett: www.naturalengland.org.uk/images/WMLG17_tcm6-11815.pdf

⁷ For guidance on what constitutes disturbance and other licensing queries, see Natural England (2007) Badgers & Development: A Guide to Best Practice and Licensing. www.naturalengland.org.uk/images/badgers-dev-guidance_tcm6-4057.pdf, Natural England (2009) Interpretation of 'Disturbance' in relation to badgers occupying a sett www.naturalengland.org.uk/images/WMLG16_tcm6-11814.pdf, Scottish Natural Heritage (2002) Badgers & Development. www.snh.org.uk/publications/online/wildlife/badgersanddevelopment/default.asp and Countryside Council for Wales (undated) Badgers: A Guide for Developers. www.ccw.gov.uk.

- ☞ keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake activities listed above. A licence is required to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Breeding Birds

Under the Wildlife & Countryside Act, 1981 (as amended), a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds, however, are not included in this definition (except for limited parts of the Act). They are covered by the Games Acts, which fully protect them during the closed season.

Under the Wildlife & Countryside Act, 1981 (as amended), all birds, their nests and eggs are protected under Sections 1-8 of the Act and it is an offence, with certain exceptions, to:

- ☞ intentionally (or recklessly in Scotland) kill, injure or take any wild bird;
- ☞ intentionally (or recklessly in Scotland) take, damage or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built;
- ☞ intentionally take or destroy the egg of any wild bird;
- ☞ have in one's possession or control any wild bird, dead or alive, or any part of a wild bird, which has been taken in contravention of the Act;
- ☞ have in one's possession or control any egg or part of an egg which has been taken in contravention of the Act;
- ☞ use traps or similar items to kill, injure or take wild birds;
- ☞ have in one's possession or control any bird (dead or alive) unless registered, and in most cases ringed, in accordance with the Secretary of State's regulations; and
- ☞ in Scotland only, intentionally or recklessly obstruct or prevent any wild bird from using its nest.

Certain rare species receive additional special protection under Schedule 1 of the Act and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC). This affords them protection against:

- ☞ intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young;
- ☞ intentional or reckless disturbance of dependent young of such a bird;
- ☞ in Scotland only, intentional or reckless disturbance whilst lekking; and
- ☞ in Scotland only, intentional or reckless harassment.

The British Trust for Ornithology (BTO) has a list of birds that are Species of Conservation Concern. These birds are not legally protected but where they are found on site they should

be given planning consideration. The criteria for birds listed as amber (medium conservation concern) include:

- ☞ historical population decline during 1800-1995, but recovering: population has more than doubled over last 25 years;
- ☞ moderate (25-49%) decline in UK breeding population over last 25 years;
- ☞ moderate (25-49%) contraction of UK breeding range over last 25 years;
- ☞ moderate (25-49%) decline in UK non-breeding population over last 25 years;
- ☞ species with unfavourable conservation status in Europe (Species of conservation Concern);
- ☞ five year mean of breeding pairs in the UK;
- ☞ ≥50% of UK breeding population in 10 or fewer sites;
- ☞ ≥50% of UK non-breeding population in 10 or fewer sites;
- ☞ ≥20% of European breeding population in UK; and
- ☞ ≥20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non breeding populations in UK.

Hazel Dormouse

The hazel dormouse (*Muscardinus avellanarius*) is fully protected under The Conservation of Habitats and Species Regulations 2017 through its inclusion on Schedule 2. Regulation 41 prohibits:

- ☞ deliberate killing, injuring or capturing;
- ☞ deliberate disturbance as to impair its ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.
- ☞ deliberate disturbance as to affect significantly the local distribution or abundance of the species;
- ☞ damage or destruction of a breeding site or resting place; and
- ☞ keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of this species.

The hazel dormouse is also currently protected under the Wildlife and Countryside Act 1981 (as amended) through its inclusion on Schedule 5. Under this Act, this species is additionally protected from:

- ☞ intentional or reckless disturbance;
- ☞ intentional or reckless obstruction of access to any place of shelter or protection; and
- ☞ selling, offering or exposing for sale, possession or transporting for purpose of sale.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect dormouse breeding or resting places (N.B. this is usually taken to mean dormouse 'habitat') or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above. The licence will allow derogation from the relevant legislation but will also to enable appropriate mitigation measures to be put in place and monitored.

Herpetofauna (Reptiles and Amphibians)

The following species receive full protection under the Conservation of Habitats and Species Regulations 2017 (as amended) through their inclusion on Schedule 2.

- ☞ sand lizard (*Lacerta agilis*);
- ☞ smooth snake (*Coronella austriaca*);
- ☞ natterjack toad (*Epidalea calamita*);
- ☞ great crested newt (*Triturus cristatus*); and
- ☞ pool frog (*Pelophylax lessonae*).

Under this legislation, Regulation 41 prohibits:

- ☞ deliberate killing, injuring or capturing of species listed on Schedule 2;
- ☞ deliberate disturbance of any Schedule 2 species as to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and
 - (ii) to hibernate or migrate.
- ☞ deliberate disturbance of any Schedule 2 species as to affect significantly the local distribution or abundance of the species;
- ☞ deliberate taking or destroying of the eggs of a Schedule 2 species;
- ☞ damage or destruction of a breeding site or resting place; and
- ☞ keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of a species.

With the exception of the pool frog, these species are also currently listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this Act, they are additionally protected from:

- ☞ intentional or reckless disturbance (at any level);
- ☞ intentional or reckless obstruction of access to any place of shelter or protection; and
- ☞ selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). These species include:

- ☞ adder (*Vipera berus*);
- ☞ grass snake (*Natrix natrix*);

- ☞ common lizard (*Zootoca vivipara*); and
- ☞ slow-worm (*Anguis fragilis*).

Under this legislation, for these species it is prohibited under Section 9(1) & (5) to:

- ☞ intentionally (or recklessly in Scotland) kill or injure these species; or
- ☞ sell, offer or expose for sale, possess or transport for purpose of sale these species, or any part thereof.

The following species are listed in respect to Section 9(5) of Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) which only affords them protection against sale, offering or exposing for sale, possession or transport for the purpose of sale:

- ☞ common frog (*Rana temporaria*);
- ☞ common toad (*Bufo bufo*);
- ☞ smooth newt (*Lissotriton vulgaris*); and
- ☞ palmate newt (*L. helveticus*).

Water Vole

The water vole (*Arvicola amphibius*) (=terrestris) is fully protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to:

- ☞ intentionally kill, injure or take (capture) this species;
- ☞ intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
- ☞ intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection; and
- ☞ sell, offer or expose for sale, or have in his possession or transport for the purpose of sale, any live or dead water vole or part of this species.

Where development works are liable to affect habitats known to support water voles, Natural England must be consulted. All alternative design options must have been explored and communicated to Natural England in order to demonstrate that works have tried to avoid contravening the legislation e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable etc. Conservation licences for the capture and translocation of water voles may be issued by Natural England for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population.

Otter

Otters (*Lutra lutra*) are fully protected under The Conservation of Habitats and Species Regulations 2017 through their inclusion on Schedule 2. Regulation 41 prohibits:

- ☞ deliberate killing, injuring or capturing of otters;
- ☞ deliberate disturbance as to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young; and

(ii) to hibernate or migrate.

- ☞ deliberate disturbance as to affect significantly the local distribution or abundance of the species;
- ☞ damage or destruction of a breeding site or resting place; and
- ☞ keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part of this species.

Otters also receive protection under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- ☞ intentional or reckless disturbance (at any level);
- ☞ intentional or reckless obstruction of access to any place of shelter or protection; and
- ☞ selling, offering or exposing for sale, possession or transporting for purpose of sale.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect breeding or resting places or for activities likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above. The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and monitored.

Wild Mammals

All wild mammals are protected against intentional acts of cruelty under the Wild Mammals (Protection) Act 1996. Under this legislation it is an offence to:

- ☞ mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention of this legislation, due care and attention should be taken when carrying out works that have the potential to impact any wild mammal as described above.

Plants

Wild plants are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Some rare plant species also receive full protection under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits:

- ☞ intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only); and
- ☞ selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or parts.

In addition to the legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2017. Regulation 45 makes it an offence to:

- ☞ deliberately pick, collect or destroy a wild Schedule 5 species; and
- ☞ be in possession of, or control, transport, sell or exchange any wild live or dead Schedule 5 species or anything derived from it.

A European Protected Species Mitigation (EPSM) Licence issued by Natural England will be required for works liable to affect species of plant listed under The Conservation of Habitat and Species Regulations 2017.

Invasive Plant Species

Certain plants are listed on Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) in respect to Section 14(2). Species include:

- ☞ Japanese knotweed (*Fallopia japonica*);
- ☞ giant hogweed (*Heracleum mantegazzianum*);
- ☞ Himalayan balsam (*Impatiens glandulifera*);
- ☞ certain species of rhododendron (*Rhododendron* sp.); and
- ☞ certain species of cotoneaster (*Cotoneaster* sp.).

Species listed are non-natives whose establishment or spread in the wild may be detrimental to native wildlife. Inclusion on Part II of Schedule 9 therefore makes it an offence to:

- ☞ plant or otherwise cause these species to grow in the wild.

This legislation makes it is an offence to cause species listed to grow in the wild. Therefore, if they are present on site and development activities have the potential to cause the further spread of these species to new areas, it will be necessary to ensure appropriate measures are in place to prevent this.

Habitats

International Statutory Designations

- ☞ Special Protection Areas (SPAs): Terrestrial SPA's are afforded protection by The Conservation (Natural Habitats, &c. Regulations 1994 (as amended) an offshore SPA's are afforded protection under The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). SPAs are designated under the EC Birds Directive (Council Directive 2009/147/EC on the Conservation of Wild Birds). SPAs are areas recognised as important habitat for rare and migratory birds within the European Union (rare birds as listed on Annex I of the Directive).

- ☞ Special Areas of Conservation (SACs): These areas are designated under the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora), designated for the habitats and (non-bird) species listed on Annexes I and II to the Directive under the same regulations as detailed for SPA's.
- ☞ Ramsar sites: These areas are wetlands designated under the Convention on Wetlands of International Importance (1971). Wetlands can include areas of marsh, fen, water or peatland and may be natural or artificial, permanent or temporary. Ramsar sites are underpinned through prior notification as Sites of Special Scientific Interest (SSSIs) and as such receive statutory protection under the Wildlife & Countryside Act 1981 (as amended) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000.

National Statutory Designations

- ☞ Sites of Special Scientific Interest (SSSIs): These sites are designated by the countryside agencies (for example Natural England) under the Wildlife & Countryside Act 1981 (as amended). Prior to 1981 these were designated under the National Parks and Access to the Countryside Act 1949. Improved mechanisms for the protection of SSSIs have also been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales).
- ☞ National Nature Reserves: These sites are also designated by the countryside agencies under the Wildlife & Countryside Act 1981 (as amended).

Local Statutory Designations

- ☞ 1949 Local Nature Reserves (LNRs): These sites are designated by local authorities under the National Parks and Access to the Countryside Act 1949. These are sites recognised for their wildlife or geological interest at a local level and are managed for nature conservation.

Non-Statutory Designations

- ☞ Local Wildlife Sites: Areas of local conservation interest may be designated by local authorities. The terminology for these sites varies depending on the county. They can be called Sites of Nature Conservation Importance (SNCI's), Sites of Importance for Nature Conservation (SINCs), County Wildlife Sites (CWS), Listed Wildlife Sites (LWS), Local Nature Conservation Sites (LNCS), Sites of Biological Importance (SBIs). The designation criteria may vary between counties. Local Wildlife Sites are of material consideration when planning applications are being determined.

- ☞ The Hedgerow Regulations 1997: These have been compiled to protect 'important' countryside hedgerows from damage or removal. A hedgerow is considered important if (a) has existed for 30 years or more; and (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations. Under the Regulations, it is against the law to remove or destroy certain hedgerows without permission from the local planning authority. Hedgerows covered by these regulations include those on or adjacent to common land, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys.

National Planning Policy

- ☞ The National Planning Policy Framework (NPPF) (2019) replaces the former NPPF 2018 and 2012, and the former PPS9 document and emphasises the need for sustainable development. The Framework specifies the need to protect and enhance biodiversity and geodiversity. Identify and safeguard components of local wildlife-rich habitats and wider ecological networks including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors; and stepping that connect them. Plus partnerships for habitat management, enhancement, restoration or creation. The Framework aims to promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species. In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; appropriate mitigation or compensation measures are in place where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

Appendix D

Plant Species List

Plant Species List

Scientific nomenclature follows Stace (2010) for vascular plant species and British Bryological Society (BBS) Special Volume No. 5 *English Names for British Bryophytes* for bryophyte species. Vascular plant common names follow the Botanical Society of the British Isles 2003 list, published on its web site, www.bsbi.org.uk. The plant species list was generated as part of a Phase 1 Habitat survey and does not constitute a full botanical survey.

Abundance was estimated using the DAFOR scale as follows:

D = dominant, A = abundant, F = frequent, O = occasional, R = rare, L = locally

Key to qualifiers: c=clumped, e=edge only, g=garden origin, p=planted, y = young, s=seedling or sucker, t=tree, h=hedge, w=water, ? = identification uncertain.

Scientific Name	Common Name	Abundance	Qualifier
<i>Crateagus monogyna</i>	Hawthorn	F	H
<i>Heracleum sphondylium</i>	Hogweed	F	
<i>Lolium perenne</i>	Perennial rye grass	D	
<i>Populus tremula</i>	Aspen	O	H, T
<i>Ranunculus repens</i>	Creeping buttercup	F	
<i>Rubus fruticosus</i> agg.	Bramble	F	
<i>Rumex acetosa</i>	Sorrel	O	
<i>Sorbus aucuparia</i>	Rowan	O	H, T

Appendix E

Suggested Compensatory Planting

Suggested Compensatory Planting

This section provides a list of plants which are of proven value to wildlife. The list is not exhaustive and merely provides a guide for suggested planting for wildlife value. Planting should be tailored on a site by site basis. The list includes some native and ornamental species however the emphasis should always be on the use of predominantly native species.

N = Native, NN = Non-native.

This list includes species that may be harmful if handled or ingested. Schedule 9 (Part 2) of the Wildlife and Countryside Act, 1981 (as amended) includes a list of invasive plants, including aquatic species, that should always be avoided in planting schemes.

Large Shrubs

Hedge veronica/Hebe (*Veronica* spp.) NN

Hawthorn (*Crataegus monogyna*) N

Blackthorn (*Prunus spinosa*) N

Rose: dog rose (*Rosa canina*), field rose (*R. arvensis*), burnet rose (*R. pimpinellifolia*) N

California lilac (*Ceanothus* spp.), (*C. arborea*) NN

Wild privet (*Ligustrum vulgare*) N

Common holly (*Ilex aquifolium*) N

Barberry (*Berberis* spp.) (*B. darwinii*), (*B. thunbergii*), (*B. x stenophylla*) NN

Daisy Bush (*Olearia* spp.), (*O. x hastii*), (*O. macrodonta*) and (*O. traversii*) NN

Firethorn (*Pyracantha coccinea*) NN

Hazel (*Corylus avellana*) N (*C. maxima*) NN

Viburnum (*Viburnum* spp.), wayfaring tree (*V. lantana*) N, guelder rose (*V. opulus*) N, laurustinus (*V. tinus*) E Note: *V. lantana* can become invasive in more open habitats.

Dogwood (*Cornus sanguinea*) N

Broom (*Cytisus scoparius*) N

Escallonia (*Escallonia macrantha*) NN

Hardy fuchsia (*Fuchsia magellanica*) NN

Buckthorn (*Rhamnus cathartica*) N

Spindle (*Euonymus europaeus*) N

Tutsan (*Hypericum androsaemum*) N

Yew (*Taxus baccata*) N

Trees

Cherry (*Prunus* spp.), wild cherry (*P. avium*), bird cherry (*P. padus*), domestic plum (*P. domestica*) N or cherry plum (*P. cerasifera*) NN

Ash (*Fraxinus excelsior*) N

Apple (*Malus* spp.), edible apple (*M. domestica*), crab apple (*M. sylvestris*) N

Pear (*Pyrus* spp.), edible pear (*P. communis*) NN

Small-leaved lime (*Tilia cordata*) N

Silver birch (*Betula pendula*) N

Yew (*Taxus baccata*) N

Black poplar (*Populus nigra*) N

Foxglove tree (*Paulownia tomentosa*) NN

Beech (*Fagus sylvatica*) N

Climbers

Jasmine (*Jasminum* spp.), summer jasmine (*J. officinale*), winter jasmine (*J. nodiflorum*) NN

Ivy (*Hedera helix*) N

Climbing hydrangea (*Hydrangea anomala* ssp. *petiolaris*) NN

Honeysuckle (*Lonicera* spp.) (*L. periclymenum*) N

Clematis (*Clematis* spp.) NN

Hop (*Humulus lupulus*) N

Firethorn (*Pyracantha atalantioides*) NN

Bulbs

English bluebell (*Hyacinthoides non-scripta*) N

Squill species (*Scilla* spp.) N/NN

Snowdrop (*Galanthus nivalis*) N

Winter aconite (*Eranthis hyemalis*) E

Crocus species (*Crocus* spp.) NN

Wild Daffodil (*Narcissus pseudonarcissus*) N

Onion species (*Allium* spp.) N/NN. N.B. *Allium triquetrum* (three cornered leek) and *Allium paradoxum* (few-flowered leek) are Schedule 9 invasive plant species.

Wood anemone (*Anemone nemorosa*) N

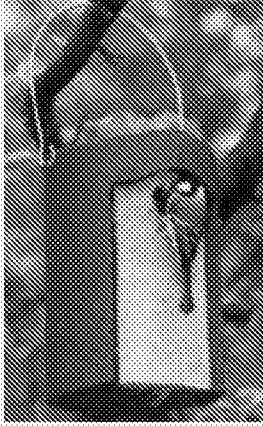
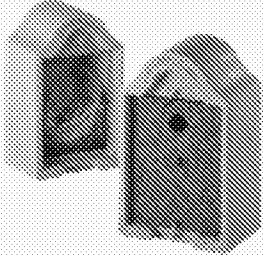
Lesser celandine (*Ficaria verna*) N

Appendix F

Bat and Bird Box Designs

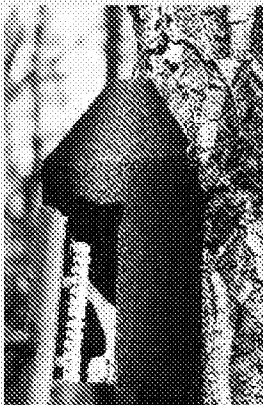
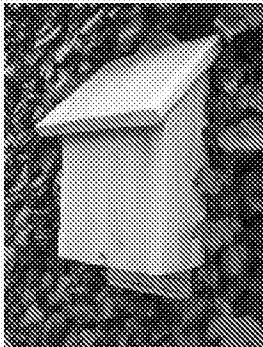
Bat and Bird Box Designs

Bird Boxes

Example	Type	Dimension D x W x H (cm)	Target Species	Location
	Schwegler Nest Box 1B Hole-fronted 26mm entrance hole	16 x 16 x 23	Multi-purpose, including: blue-, marsh-, coal and crested tit and possibly wren. All other species are prevented from using the nest box due to the smaller entrance hole.	Suitable walls or semi-mature/mature trees and shrubs; attached to a tree trunk or hung from branches. Ideal points include discrete areas away from predators, such as against walls, plant and metal supports.
	Schwegler Bird House 32mm entrance hole	15 x 21 x 33	Multi-purpose, including: great-, blue-, marsh- and coal tit, redstart, nuthatch, pied flycatcher and sparrows.	Fixed to a semi-mature/mature tree trunk, wall or fence using the hanging bracket on the back. Between 1.5 m and 3 m high, and should be sited higher if your area has a particularly high cat population.

Example	Type	Dimension D x W x H (cm)	Target Species	Location
	Schwegler Sparrow Terrace 1SP	20 x 43 x 24.5	House sparrow. It may also occasionally attract tits, redstarts and spotted flycatchers.	In an elevated position such as on post/platform within dense shrub/tree planting or on top of lighting columns. Alternatively, they could be attached to the side of a building. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. It is suitable for all types of houses in built-up areas, and on industrial and agricultural buildings such as barns, sheds and factories. Due to its weight (15kg), it is not suitable for fences or garden sheds. Ideally place the terrace two metres or more above the ground. Either install on the surface of the wall using the plugs and screws provided, or install directly into the wall. Cleaning is not necessary. The front panel can be removed by turning the screw hook.

Bat Boxes

Example	Type	Dimension D x W x H (cm)	Target Species	Location
	2F Schwegler Bat Box (General Purpose) with or without Double Front Panel	16 x 16 x 33	Without panel: Particularly successful with brown long-eared bat. Also used by noctule. With panel: Ideal for crevice-dwelling species: pipistrelles, Myotis species (particularly Daubenton's), Leisler's and serotine.	On trees or buildings and at a height of 3 to 6m. In open sunny positions and in groups of 3 to 5 facing different directions. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.
	Chavenage Bat Box	10 x 18 x 38	Small crevice-dwelling bats e.g. pipistrelles.	On trees in gardens or woodland and also on house walls. 2.5 - 5m high on a building, mature tree or vegetation line (trees/tall hedge) or on a feeding/flight route in partial daytime sun. Please note that once bats have inhabited a roost site they may only be disturbed by licensed bat workers.

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