



The Vinery, Poling

Angmering, West Sussex

Preliminary Ecological Appraisal

Report for Fargo

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Executive Summary

A preliminary ecological appraisal was carried out at The Vinery, Poling, in West Sussex, on the 11th September 2012. This appraisal was carried out in order to assess the ecological value of the site and to provide recommendations for protecting, managing and enhancing its wildlife value. The main findings of the appraisal are as follows:

- The site is not subject to any statutory nature conservation designation. The nearest statutory designated site is Arundel Park Sites of Special Scientific Interest (SSSI) which lies 3.96 kilometres (km) to the north-west of the site of the site. The nearest non-statutory designated site is Poling Copse Site of Nature Conservation Importance (SNCI) which lies 360 metres (m) to the north-west.
- There are several blocks of ancient replanted and ancient semi-natural woodland within 2km of the site, the closest being Beech Copse 213m to the north.
- The site contained poor semi-improved grassland, neutral grassland, scattered trees, species poor hedgerows, scattered scrub, drainage ditches, tall ruderal vegetation, introduced shrub, buildings and hard-standing.
- The mature trees, hedges, ditches, and scrub mosaic are considered to be of biodiversity value in the Local (1-5km radius) context. The remaining habitats are of value within the immediate vicinity of the site only as they are limited in extent, are not considered to be outstanding examples of their type and are widespread in the surrounding area.
- The habitats within the main development area are dominated by poor semi-improved grassland and are of low ecological value, within this area there is relatively little potential for legally protected species.
- The area earmarked for a polytunnel storage area to the east has potential to support widespread reptile species and a survey of this area is recommended. If later found to be present any reptiles would be translocated to an area of the site that will remain unaffected by works.
- Owing to the potential for badgers *Meles meles* to be supported within the site, a pre-construction survey should be carried out in the run up to works. If setts are discovered a licence may be required to proceed with the development which could result in delays or restrictions on the works methodology.

- Any clearance of scrub or trees should be mindful of the potential for breeding birds and be carried out outside of the main nesting season.
- The landscaping proposals for the site include a number of measures that aim to improve the overall value for biodiversity. This includes a new ditch, enhancements to existing ditches, native scrub and tree planting, new hedge planting, a new pond and wildflower areas to the north of the new building and along ditch lines.
- The above proposals will benefit the ecological value of the site and provide more than adequate compensation for habitats that will be either lost or disturbed.

1 Introduction

BACKGROUND

- 1.1 The Ecology Consultancy was commissioned by Fargo, a horticultural wholesale supplier of goods to the UK horticultural industry, to carry out a preliminary ecological appraisal of The Vinery, Poling in West Sussex. The appraisal was undertaken in order to provide baseline ecological information and recommendations for further protected species surveys and mitigation where appropriate.

SCOPE OF THE REPORT

- 1.2 This report is based on a desk top study, and field survey using standard Phase 1 survey methodology (JNCC, 2010). This approach is designed to identify broad habitat types at a site, to identify the potential of habitats to support protected species, and to assist in providing an overview of the ecological interest at a site. It is generally the most widely used and professionally recognised method for initial ecological site appraisal.
- 1.3 A habitat plan of the site is in Appendix 1; photographs of the site are presented in Appendix 2. A full list of plant species identifiable at the site during this survey, along with an assessment of their abundance using the DAFOR scale, appears in Appendix 3. Relevant nature conservation legislation and policy is provided in Appendix 4.

SITE CONTEXT AND STATUS

- 1.4 The site was approximately 4.5 hectares (ha) in size and the National Grid reference for the centre of the site is TQ051 054. The survey area comprised grassland, hedges and scrub, drainage ditches, tall ruderal vegetation and introduced shrub and a building with surrounding hard-standing. There were two further buildings adjacent to the horse grazed fields.
- 1.5 The site is located to the south of the A27 (Arundel Road). There is an access road (The Vinery) to the site from the north-eastern boundary, a public footpath lies along the northern boundary, continuing diagonally and bisecting the western section of the site. A hedge and scrub line and shallow drainage ditches form the western and southern boundaries, with a scrub and tree line along the eastern boundary. The surrounding area comprises light industry, arable farmland and residential

development with numerous areas of woodland listed on the National inventory for ancient semi-natural woodland (ASNW).

DEVELOPMENT PROPOSALS

- 1.6 Proposals for the redevelopment of the site are for a new horticultural plant nursery. Works would include construction of a new office complex and polytunnels. There is also a soft landscaping scheme that comprises tree and scrub planting, enhancements to the ditch system and a new balancing pond.
- 1.7 It is understood that under current proposals the western third of the site, beyond the public footpath, will remain unchanged with grassland, trees, scrub and drainage ditches being retained.

2 Methodology

DESK TOP STUDY

- 2.1 The Ecology Consultancy are a partner organisation with the Sussex Biodiversity Records Centre (SxBRC) and hold regularly updated biological data sets compiled by the SxBRC from records provided by local recorders. Species data is provided to the SxBRC by a range of individual biological recorders, recording groups, private, public and charitable sector organisations. Data remains the property of the original recorder and is reproduced with thanks.
- 2.2 The data sets queried for this project include notable birds, invasive species, Sussex bat inventory, Sussex rare species, Sussex protected species, local bird data, Sussex BAP species and local wildlife sites. The data search was carried out for all records and local wildlife sites within 2km of the site boundary.
- 2.3 In addition, a search was also completed of an on-line mapping service (MAGIC, 2012) to ascertain the presence of any statutory designated sites. The UK (JNCC, 2010), and Sussex Biodiversity Action Plans (BAP) (Surrey Biodiversity Partnership, 2001) were reviewed for those priority species and habitats that may be relevant to the existing site and proposed development.

HABITAT SURVEY

- 2.4 A Phase 1 Habitat survey of the site was carried out on the 11th September 2012. Habitats were described and mapped following standard Phase 1 survey methodology (JNCC, 2010). The survey was conducted by an experienced ecologist. 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

- 2.5 The potential of the habitats on the site to support protected species was assessed from field observations carried out at the same time as the habitat survey, combined with the results of the desk top study. The site was inspected for indications of the presence of protected species as follows:
- The presence of features in, and on trees, indicating potential for roosting bats such as fissures, holes, loose bark and ivy *Hedera helix* and those associated with buildings such as cavities, roof voids, hanging tiles, unenclosed soffits etc.

Direct evidence such as the presence of bats, staining, droppings and feeding remains was also looked for;

- Habitat suitable for water vole *Arvicola amphibious* such as watercourses with dense marginal vegetation, particularly when connected to a network of similar watercourses;
- Habitat suitable for dormouse *Muscardinus avellanarius* such as woodland, scrub and dense/species-rich hedgerows, particularly when connected to suitable habitats across the wider landscape;;
- Evidence of badger including setts, runs, snuffle holes, latrines and hairs;
- Assessment of the presence of nesting habitat for breeding birds, such as mature trees, dense scrub, hedgerows and buildings and evidence of bird nesting including bird song, old nests, large deposits of faeces etc.;
- Scrub/grassland mosaic and potential hibernation sites for reptile species; and,
- Water bodies and surrounding terrestrial habitat with potential to support great crested newts *Triturus cristatus*.

2.6 The likelihood of occurrence is ranked as follows and relies on the findings of the current survey and an evaluation of existing data.

- Negligible – while presence cannot be absolutely discounted, the site includes very limited or poor quality habitat for a particular species or species group. No local returns from a data search, surrounding habitat considered unlikely to support wider populations of a species/species group. The site may also be outside or peripheral to known national range for a species,
- Low – on-site habitat of poor to moderate quality for a given species/species group. Few or no returns from data search, but presence cannot be discounted on the basis of national distribution, nature of surrounding habitats, habitat fragmentation, recent on-site disturbance etc.
- Moderate – on-site habitat of moderate quality, providing all of the known key requirements of a given species/species group. Local returns from the data search, within national distribution, suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, habitat severance, and disturbance.

- High – on-site habitat of high quality for a given species/species group. Local records provided by desk-top study. The site is within/peripheral to a national or regional stronghold. Good quality surrounding habitat and good connectivity.
- Present – presence confirmed from the current survey or by recent, confirmed records.

2.7 The purpose of this assessment is to identify whether more comprehensive Phase 2 surveys for protected species should be recommended.

SITE EVALUATION

2.8 The site has been evaluated broadly following guidance issued by the Institute of Ecology and Environmental Management (IEEM, 2006), according to a geographic scale (significance at the international level down to the site level) and using a range of criteria for assigning ecological value, as follows:

- Presence of sites or features designated for their nature conservation interest. Examples include internationally or nationally designated sites such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and SSSIs, locally designated sites such as Local Nature Reserves (LNRs) and SNCIs;
- Biodiversity value, for example, habitats or species which are rare or uncommon, species rich assemblages, species which are endemic or on the edge of their range, large populations or concentrations of uncommon or threatened species, and/or plant communities that are typical of valued natural/semi-natural vegetation types;
- Potential value, as addressed by targets to increase the biodiversity value for example of SSSIs, international sites and some BAP species and habitats. If detailed plans exist to enhance the value of such areas then it may be appropriate to value them as if the intended resource already existed;
- Secondary and supporting value, for example, habitats or features which provide a buffer to valued features or which serve to link otherwise isolated features;
- Presence of UK and/or Sussex BAP habitats and species.

2.9 The ecological interest of the site and the proposed development has also been evaluated in terms of the Arun District Local Plan (Arun District Council, 2007) policies relating to nature conservation (see Appendix 4).

LIMITATIONS

- 2.10 It should be noted that, whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation and prediction of the natural environment.
- 2.11 This Phase 1 habitat survey and protected species assessment does not constitute a full botanical survey, or a Phase 2 survey that would include accurate GIS mapping for invasive or protected plant species.
- 2.12 It is important to note that, even where data search records are 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.
- 2.13 The protected species assessment 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 provided in response to our enquiries, and any direct evidence on the site. It should not be taken as providing a full and definitive survey of any protected species group. It is only valid at the time the survey was carried out. Additional surveys may be recommended if, on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that other protected species may be present.
- 2.14 Despite these limitations, it is considered that this report reflects accurately the habitats present, their biodiversity values and the potential of the site to support protected and notable species.

3 Results

DESK TOP STUDY

- 3.1 The following records regarding present and historical ecological interest at the site and within a 2km radius were returned by the data search.

Statutory Sites of Importance for Nature Conservation

- 3.2 The site is not subject to statutory nature conservation designations, such as SPA, SSSIs, SACs or LNRs. The nearest statutory designated site is Arundel Park SSSI which lies 3.96km to the north-west of the site of the site. This site is described as:

'...one of the most important sites in the country for invertebrates including a number of rare and notable species. The area has a particularly diverse breeding bird community and is important for overwintering species. The site also includes examples of species-rich chalk grassland containing several plants uncommon in Sussex.'

- 3.3 Two non-statutory designated sites lie within 2km of the site; Poling Copse SNCI- a block of ancient semi natural woodland, located 360m to the north-west and Warningcamp Hill and New Down SNCI - herb rich chalk grassland with notable rare plant communities, ancient semi natural woodland and an old chalk pit located 1.9km north west of the site.

- 3.4 Additionally 12 areas of ancient semi-natural woodland lie within 2km of the site. The nearest – Beech Copse - lies 213m to the north of the site on the far side of the A27.

Protected and notable species

- 3.5 Protected and BAP species recorded within a 2km radius of the site and that may potentially utilise or be found at the site are discussed below:

Bats

- 3.6 The data search returned records for the following bat species 927m from the site in 2006: brown long eared bat *Plecotis auritus*, Natterer's bat *Myotis natteri*, common pipistrelle *Pipistrellus pipistrellus*, serotine *Eptesicus serotinus*, western barbastelle *Barbastella barbastella* and whiskered bat *Myotis mystacinus*.

Water vole

- 3.7 Nine records for water vole were returned by the data search; the closest records were historical 1.8km from the site between 2009 and 2011.

Dormouse

- 3.8 One record of dormouse was returned by the data search, located 1km from the site, in 2009.

Birds

- 3.9 The data search returned records for the following UK BAP and Birds of Conservation Concern (BoCC¹) species: common kestrel *Falco tinnunculus* recorded within the site in 1999, common kingfisher *Alcedo atthis*, common linnet *Carduelis cannabina*, common whitethroat *Sylvia communis*, fieldfare *Turdus pilaris*, green woodpecker *Picus viridis*, hedge accentor *Prunella modularis*, little egret *Egretta garzetta*, marsh tit *Poecile palustris*, reed bunting *Emberiza schoeniclus* and skylark *Alauda arvensis*.

Reptiles

- 3.10 The data search returned one record of for adder *Vipera berus*, 915m from the site in 1991. Six records of grass snake *Natrix natrix* were provided the closest being 370m from the site in 1993.

Amphibians

- 3.11 No records for great crested newt *Triturus cristatus* returned by the data search. Three records of common toad *Bufo bufo* were provided; the nearest 960m in 1987.

EXTENDED PHASE 1 HABITAT SURVEY

Habitat overview

- 3.12 The site was dominated by poor semi-improved grassland, with scattered trees, species poor hedgerow, scattered scrub, drainage ditches, tall ruderal vegetation, introduced shrub, buildings and hard-standing. It was used primarily for light industry, storage and car parking in the eastern most section, with some plant nursery stock in the southern extent of this area (Target note 4, Figure 1, Appendix 1). The remainder of the site was used as pasture.

¹ BoCC: The UK's birds can be split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. There are 52 species on the red list, 126 on the amber list and 68 on the green list.

Poor semi-improved grassland

- 3.13 This habitat was predominantly closely horse grazed. The western most section was fenced at the time of the survey and vegetation was considerably taller and tussocky. This area is likely to be regularly grazed, and species-compositions were broadly comparable throughout. Species included perennial rye grass *Lolium perenne*, false oat grass *Arrhenatherum elatius*, white clover *Trifolium repens*, red fescue *Festuca rubra*, daisy *Bellis perennis*, cock's-foot *Dactylis glomerata*, thistle *Cirsium* sp., Yorkshire fog *Holcus lanatus*, and ribwort plantain *Plantago lanceolata*.

Scattered trees, species-poor hedges and scrub

- 3.14 Scattered trees were present predominantly along boundary features such as drainage ditches and hedges. Species included a mature pedunculate oak *Quercus robur* and poplar *Populus* sp., young sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior* and hawthorn *Crataegus monogyna*.
- 3.15 Hedgerows were sparse and fragmented, composed of young trees and scrub. Species included hawthorn, bramble *Rubus fruticosus* agg, elder *Sambucus nigra*, dogwood *Cornus* sp., holly *Ilex aquifolium*, hazel *Corylus avellana* beech *Fagus sylvatica*, ivy *Hedera helix* small leaved elm *Ulmus minor*, blackthorn *Prunus spinosa*, and ash *Fraxinus excelsior* saplings. A mosaic of scattered scrub, tall ruderal vegetation and tall herb formed much of the unmanaged areas of the site. Scrub species included willow *Salix* sp., elder *Sambucus nigra*, dogwoods *Cornus* spp., ivy and bramble.

Drainage ditches and tall ruderal vegetation

- 3.16 The drainage ditches were typically overgrown and either dry or with only very shallow slow - flowing water. Within the ditch that bisects the site (Target note 1, Figure 1, Appendix 1 and Photograph 1, Appendix 2), running roughly north south were bare compacted soil scrapes which indicated that it had been cleared by a mechanical digger to improved drainage. Vegetation was sparse at the bottom of the channel. Vegetation towards the top of the channel was dense in places and dominated by common nettle *Urtica dioica*, thistle *Cirsium* sp., and scrub species including young elder and hawthorn and bramble.

3.17 The drainage ditch running along the western boundary was very densely vegetated, predominantly by bramble, with additional tall herb species. The ditch running west to east along the southern boundary lies adjacent to a hedgerow and scrub line and was entirely dry at the time of the survey, very shallow and overgrown.

3.18 Tall ruderal vegetation including lesser burdock *Arctium minus*, teasel *Dipsacus fullonum*, great willowherb *Epilobium hirsutum*, dominated where horses were excluded – primarily along the drainage ditches and at the base of hedge and scrub lines. Other species included field bindweed *Convolvulus arvensis*, cat's-ear *Hypochaeris radicata*, hogweed *Heracleum sphondylium*, common ragwort *Senecio jacobaea*, rosebay willowherb *Chamerion angustifolium*, common knapweed *Centaurea nigra*, cleavers *Galium aparine*, white dead-nettle *Lamium album*, cow parsley *Anthriscus sylvestris*, and bristly oxtongue *Helminthotheca echioides*, knot-grass *Polygonum aviculare*. Bracken *Pteridium aquilinum* was present in discrete patches along the margins.

Introduced shrub

3.19 A row of mature Leyland cypress *Cupressocyparis x leylandii* formed the north western site boundary. Other planted species included firethorn *Pyracantha* sp. and rose *Rosa* sp.

Buildings and hardstanding

3.20 Four buildings were located within the site, described as follows:

- Building 1: Prefabricated metal shed, with no roof void. Surrounded by hard-standing.
- Building 2: A single storey brick and concrete structure with no roof void.
- Building 3: Two small wooden sheds lying within poor semi-improved grassland and used for storage by tenants' grazing horses

PROTECTED SPECIES ASSESSMENT

3.21 The habitats at the site were evaluated as to their likelihood to provide sheltering, roosting, nesting and foraging habitat for the following protected species:

- Bats;
- Water vole;

- Hazel dormouse;
- Badger;
- Breeding birds;
- Reptiles; and,
- Great crested newt.

3.22 The evaluation (see Table 1 below) is based on the results of the desk-top survey, observations made during the site survey, an assessment of the suitability of on-site and adjoining habitat and information on the distribution of these species. The presence of invasive plant species, for which national legislation exists, is also considered. The relevant legislation and policies relating to protected species and habitats are set out in Appendix 4.

Table 1: Assessment of potential presence of protected and invasive species at the proposed development site.

Species	Main legislation and policy (see Appendix 4)	Reason for consideration	Likelihood of occurrence
Protected and notable species			
Bat	Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). Wildlife and Countryside Act 1981 (as amended) Schedule 5.	The site contains potential roosting habitat i.e. mature trees and foraging and commuting habitat. Several bats records from the data search.	MODERATE to HIGH. Mature broadleaved trees had features of bat roosting potential, such as dead wood and holes, in particular a mature pedunculate oak tree in the north western limit of the site (See Target note 2, Figure 1, Appendix 1 and Photograph 2, Appendix 2). The two structures (Buildings 1 and 2) had no access points and no roof void; the small sheds (Buildings 3) were of lightweight wooden construction with no voids. These are considered to be of Negligible bat roosting potential. The site supports linear features such as tree, ditch, hedge and scrub lines, with good connectivity to large areas of off-site habitat suitable for roosting, foraging and commuting.
Water vole	Wildlife and Countryside Act 1981 (as amended). Schedule 5	Ditches often provide habitat for this species which is present in Sussex Several records from the data search.	LOW: The banks of the ditches bordering the site were mainly disturbed/ bare and were dry or had only shallow water and had insufficient vegetation and sub-optimal water depth to support this species. This species is known in the local area however, and there is some connectivity between the ditches on site and those in the wider landscape, therefore their presence cannot be ruled out.
Hazel dormouse	Wildlife and Countryside Act 1981 (as amended) - Schedule 5. Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended).	Linear boundary features v/z. trees/scrub lines provide suitable nesting habitat. Food and nesting building plants, such as hazel, bramble and honeysuckle were present on- and off-site.	LOW: Scattered trees, hedgerows and scrub on site potentially act as a wildlife corridor for dormouse although as the understorey was sparse in places these habitats are sub-optimal. There is some connectivity to woodland and hedges beyond the site. This species could potentially use the vegetation around the boundaries of the site although it is considered unlikely.
Badger	Protection of Badgers Act, 1992	Suitable commuting and foraging habitat on and adjacent to the	MODERATE: Two excavations were recorded during the survey along the southern site boundary hedge and scrub line (Target notes

Table 1: Assessment of potential presence of protected and invasive species at the proposed development site.

Species	Main legislation and policy (see Appendix 4)	Reason for consideration	Likelihood of occurrence
		site.	3, Figure 1, Appendix 1), which may support badger setts. It is possible that local badgers also enter the site for foraging purposes due to the undisturbed and accessible nature of the site.
Breeding birds	Wildlife and Countryside Act 1981 (as amended).	The site contains suitable breeding and foraging habitat for a variety of widespread bird species. Several bird records from the data search.	HIGH: The woodlands and introduced shrubs provide nesting and foraging opportunities for a variety of common woodland and urban species.
Reptiles	Wildlife and Countryside Act 1981 (as amended). Schedule 5 (partial protection).	Edge habitats provide basking and foraging opportunities for widespread species of reptile such as slow worms. Several reptile records from the data search.	MODERATE to HIGH: The site supports a mosaic of habitats such as extensive rough grassland, tall ruderal vegetation, introduced shrub and hedges and scrub providing opportunities for basking, foraging, commuting and hibernating. The site is connected to off-site areas of potential value to reptiles and may form part of the larger territory required by more mobile species such as grass snake.
Great crested newt	Wildlife and Countryside Act 1981 (as amended) - Schedule 5. Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended).	Undisturbed habitats present on-site and connected areas of off-site habitat are of potential in value to great crested newt during their terrestrial and hibernation phase.	LOW: A check of online-mapping indicated the presence of two waterbodies within a 500m radius that are connected to the site by suitable vegetation. The site does not support any waterbodies that are suitable for great crested newts in their breeding phase- the ditches were mostly dry, or had only shallow and gently flowing water and were typically lacking in emergent vegetation. These are sub-optimal for breeding great crested newts.
Invasive species			
Invasive species	Section 14 and Part II of Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).	Invasive species are widespread in many habitats, commonly found on disturbed sites, old gardens and in herb/grassland/scrub mosaics.	None recorded: No invasive species were recorded during the Phase 1 survey, although this does not guarantee their absence.

4 Evaluation

- 4.1 Habitats and species on the site were evaluated following standard guidance on ecological impact assessment published by the Institute of Ecology and Environmental Management (IEEM, 2006) using the recommended geographic frame of reference.

Features of International Value

- 4.2 Features of international value are principally sites covered by international legislation or conventions such as those sites designated under the Habitats Regulations which implements the Natural Habitats and Wild Fauna and Flora (92/43/EC) (Habitats Directive). Sites designated at this level include SACs and SPAs as well as Ramsar sites which may be designated for wetland habitats or important populations of certain species. This legislation also extends protection to some species such as bats regardless of location or population size.
- 4.3 There are no sites of international importance for nature conservation within 2km of the site and it does not meet any of the criteria for designation at this scale.

Features of National Value

- 4.4 Features of national value include statutory sites such as SSSIs which are notified under the Wildlife and Countryside Act 1981 (as amended) or important populations of species with a notable conservation status. One site of national importance lies within the 2km search area – Arundel Park SSSI. The SSSI is designated primarily for the chalk grassland habitats, rare and notable invertebrate assemblages and large numbers of avifauna.
- 4.5 The site does not support chalk grassland. Although it is likely to support a good range of widespread invertebrate and bird species it is considered unlikely that the site supports features that would justify designation at this level.
- 4.6 National legislation also provides protection to certain species in addition to those covered by international legislation, including bats and birds. 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 or warrant valuation at a national level².

Features of County (i.e. Sussex) Value

- 4.7 The site is not subject to any non-statutory nature conservation designations such as SNCIs and does not contain any features considered to be of value at this geographic level. If, however, the site is found to support hazel dormouse or water vole it may be of importance at this level.

Features of District (i.e. Arun) Value

- 4.8 It is not considered that the site supports features of value at this level.

Features of Local (i.e. 1-5km radius) Value

- 4.9 The scattered mature trees, hedges, drainage ditches and scrub mosaic vegetation are considered to be of value at the local scale. As these habitats are limited in extent and not considered to be outstanding examples of their type they are therefore considered to be of local importance only. The potential to enhance their value as local BAP habitats through management exists.

- 4.10 The site also has potential to support the following protected and UK BAP species:

- Bats, such as common pipistrelle and brown long eared bat;
- Brown hare *Lepus europaeus*;
- Reptiles, including slow-worm, common lizard and grass snake;
- Birds such as song thrush;
- Amphibians such as common frog and common toad;

- 4.11 Based on the quality and extent of habitat present, it is considered that populations of these species if present could be significant at the local level.

² JNCC Guidelines for selection of biological SSSIs (see <http://jncc.defra.gov.uk/page-2303#download>).

Features of value within the immediate vicinity of the site

- 4.12 Remaining habitats such as poor semi-improved grassland, tall ruderal vegetation, buildings and hardstanding and introduced shrub, are considered to be of value within the immediate vicinity of the site only.

POTENTIAL LOCAL PLANNING POLICY IMPLICATIONS

- 4.13 On the basis of the surveys completed it is considered that one policy within the South East Plan (Communities and Local Government, 2009) and several saved policies contained in the Arun District Local Plan (Arun District Council, 2003) are relevant to site, as follows in Table 2 below. The full text of the relevant policies from this document is contained in Appendix 4.

Table 2 : South East Plan and Arun District Local Plan policies relevant to the site

Policy	Relevance to the sites
South East Plan Policy	
NRM5: Conservation and Improvement of Biodiversity Local planning authorities and other bodies shall avoid a net loss of biodiversity, and actively pursue opportunities to achieve a net gain across the region.	A net loss of biodiversity can be avoided by following mitigation recommendations; through the enhancement of on-site vegetation post development and the retention of trees and edge habitats (see Section 5).
Arun District Local Plan	
GEN28 TREES AND WOODLANDS Development will not be permitted if it would damage or destroy one or more trees protected by a tree preservation order, identified as ancient woodland or in a conservation area unless: <i>....the removal of one or more trees would be in the interests of good arboricultural practice; or the benefits of the proposed development outweigh the amenity value of the protected trees.</i> Conditions may be used to ensure that, for any trees which are removed as part of a development, an equivalent number are planted on the site.	Trees within the site are not part of ancient woodland, this report recommends the retention of trees and mitigation measures for those to be removed or impacted by development.
GEN29 NATURE CONSERVATION ACROSS THE DISTRICT Development will only be permitted on sites which contain semi-natural habitats, features of nature conservation interest, or within wildlife corridors, where these can be largely retained and sympathetically incorporated into the scheme. Legal agreements may be used to offset the loss of, or impact on, any nature conservation resource present on the site prior to development.	This report recommends retention of habitats of importance to nature conservation and mitigation measures to avoid loss of nature conservation resources.

Table 2 : South East Plan and Arun District Local Plan policies relevant to the site

Policy	Relevance to the sites
AREA13 SITES OF INTERNATIONAL IMPORTANCE FOR NATURE CONSERVATION Proposals for development in, or likely to affect (directly or indirectly) a site of international importance for nature conservation will be subject to the most rigorous examination. Development not directly connected with or necessary to the management of the site which is likely to have an adverse effect on the site, will not be permitted unless: there is no alternative solution, there are reasons of public health or public safety, or there are benefits of primary importance to the environment. Where such sites do not host a priority habitat or species, development will not be permitted unless there are imperative reasons of overriding public interest. Where development is permitted, the use of conditions or planning obligations will be considered in order to avoid and minimise harm to the site, to enhance the site's nature conservation interest, and to secure any compensatory or mitigation measures and appropriate management that may be required.	
AREA14 SITES OF NATIONAL IMPORTANCE FOR NATURE CONSERVATION Proposals for development in, or likely to affect (directly or indirectly) Sites of Special Scientific Interest will be subject to special scrutiny. Where such development is likely to have an adverse effect, it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites. Where the site concerned is a National Nature Reserve, a site identified by the Nature Conservation Review or Geological Conservation Review, particular regard will be paid to the national importance of that site. Where development is permitted, harm to the nature conservation interest must be minimised. The use of conditions or planning agreements will be considered to ensure the protection and enhancement of the nature conservation interest, and to provide appropriate compensatory or mitigation measures and site management.	
AREA15 SITES OF LOCAL IMPORTANCE FOR NATURE CONSERVATION Proposals for development in, or likely to have an adverse effect (directly or indirectly) on a Local Nature Reserve, Site of Nature Conservation Importance (including ancient woodlands or wildlife corridors) or Regionally Important Geological/Geomorphological Site will not be permitted unless it can be demonstrated that reasons for the proposal outweigh the need to safeguard the nature conservation value of the site/feature. Where	

Table 2 : South East Plan and Arun District Local Plan policies relevant to the site

Policy	Relevance to the sites
development is permitted which would damage the nature conservation value of the site/feature, such damage should be kept to a minimum. Conditions or planning obligations will be used to secure necessary compensatory or mitigation measures, enhancement and site management. Where appropriate, the Authority will consider the use of legal agreements to provide appropriate compensatory measures, enhancement and site management.	

5 Conclusions and Recommendations

CONCLUSIONS

- 5.1 The site does not form part of any statutory or non-statutory designated nature conservation sites. The nearest statutory designated site is Arundel Park SSSI 3.96km from the site. The nearest non-statutory designated site is Poling Copse SNCI 360m from the site. Additionally a number of ancient replanted and semi-natural woodland areas lie within 2km of the site; the closest being Beech Copse 213m to the north of the site.
- 5.2 The site contained poor semi-improved grassland, scattered trees, species poor hedge, scattered scrub, drainage ditches, tall ruderal vegetation, introduced shrub, buildings and hardstanding. None of these habitats are considered to be of more than local importance.
- 5.3 The on-site habitats have potential to support a range of species groups afforded protection under national and European nature conservation legislation, as follows:
- Mature broadleaved trees with features of **Moderate to High** potential to support roosting bats. The site is also likely to support foraging and commuting bats as it contains linear features such as tree and scrub lines that are connected to large areas of off-site habitat which may also be used by bats;
 - A mosaic of drainage ditches with **Low** potential to support water vole;
 - Trees, hedges and scrub lines with **Low** potential to support hazel dormouse;
 - A mosaic of habitats with **Moderate** potential to support badgers;
 - Scattered trees, hedges and dense scrub provide nesting and foraging opportunities, potentially of **High** value to common bird species;
 - A mosaic of habitat types with **Moderate** potential to support widespread reptiles species is present on-site, including some basking, foraging and hibernating opportunities.
- 5.4 However, the current proposals are unlikely to impact significantly on the areas of habitat where the species mentioned above are most likely to be found. The main building proposed for the site is restricted to the centre of the main field where the grassland is of relatively low ecological value. The layout of the scheme has also been

altered to avoid significant impact on the north-south running ditch line and associated vegetation. To facilitate movement around the site, a short section of ditch will be culverted to allow vehicles to cross over.

- 5.5 At present the scheme is unlikely to affect sections of the site which are considered to have the highest potential to support the protected species identified but, should the proposals change, then this will need to be revised.
- 5.6 It is recommended that the client and design team work with the scheme's ecologists to produce a simple mitigation scheme for the development. Any such scheme would seek to minimise further still the risks of impact to protected species and their habitats and would follow the outline recommendations provided below.
- 5.7 There is good scope for enhancing the habitats on the site for their wildlife value. The measures provided in the soft landscape scheme should prove beneficial for a variety of wildlife. The new scrub and tree planting would be of benefit to nesting birds and more than adequately compensate for the small loss of habitat along the ditch line. The proposed ditch works and new balancing pond should enhance the site for floral as well as invertebrate and amphibian diversity. Enhancement recommendations are also provided below.

RECOMMENDATIONS

Badgers

- 5.8 Excavations on site were potentially used by badgers. Badgers are transient animals and therefore as a precautionary measure it is recommended that a pre-work check for badgers is carried out. Survey effort should also include suitable off-site areas within a minimum 30m distance of the works area. This is in line with current Natural England recommendations and the possibility of sett disturbance caused by construction activities (Highways Agency, 2010; Natural England, 2009).
- 5.9 If setts are discovered a licence may be required to proceed with the development which could result in delays or restrictions on the works methodology.

Reptiles

- 5.10 It is recommended that a reptile survey is carried out in the area to be lost in the eastern section of the site. If reptiles were found to be present then a translocation

program would seek to relocate any animals present to other sections of the site that will remain unaffected by works. Those areas and principally the wildflower meadow area could be further enhanced through the construction of two dedicated reptile hibernacula and habitat/log piles. Selective scrub planting in this area and in the field in the west of the site would improve the structural complexity of grassland habitats and increase their value to reptiles.

5.11 A presence/absence study to be carried out in the area to the east of the north-south ditch line due to be impacted by the construction of a sub base for the polytunnels. This survey should follow current guidelines, be carried out between mid-March to September and comprise of seven survey visits in suitable weather conditions.

5.12 If reptiles were subsequently found to be present then the following mitigation measures should be adopted.

- A reptile exclusion fence to be erected around the area to be impacted by works for the polytunnels.
- A capture/translocation program should be carried out and seek to capture all reptiles within the affected area.
- Capture effort to be dictated by the population predicted through the survey and to continue until there have been seven clear visits with no animals caught or seen.
- Reptiles to be released in a pre-defined receptor site, likely to be the area earmarked for meadow planting.
- Receptor site to be enhanced by the provision of two dedicated hibernacula and a series of log piles.

Breeding birds

5.13 The site contains trees, hedges and scattered shrub. These habitats have high potential to support nesting and foraging birds. Where the scope of works requires the removal of these habitats any vegetation clearance is to be carried out outside of the main bird nesting season (March to August inclusive) to avoid any potential offences relating to nesting birds (Newton *et al.*, 2011).

5.14 Where this is not possible, a search for any nesting birds prior to vegetation clearance must be undertaken by an experienced ecologist and, if any are found, the nests are

to be protected until such time as the young have fledged. If any nesting birds are found at any time during clearance works when the ecologist is not present, work must stop immediately and an ecologist consulted for advice on how to proceed.

Habitat retention and enhancement

- 5.15 Hedgerows, mature trees, scrub and drainage ditches should be retained where possible. Enhancements to the existing hedgerows should aim to provide a continuous layer of dense shrub. Important shrub layer species include hazel, oak and honeysuckle; others of value are ash, blackthorn and hawthorn. Enhancements to ditches could include excavation to improve flow, and to remove congesting scrub.

Vegetation planting schemes of value to wildlife

- 5.16 The use of plants of known value to wildlife is recommended in the planting schemes for the site. At least ten species of biodiversity value (see below for suggestions) could be used in a well-structured scheme that includes trees, shrubs, climbers, herbaceous perennials and bulbs.
- 5.17 Any planting scheme could utilise a high percentage of native tree, shrub and climbing species. Suitable native trees and shrubs providing nectar and berries which could be used include hawthorn, blackthorn *Prunus spinosa*, crab apple *Malus sylvestris* and plum *Prunus domestica*. Climbers could be planted along the edges of fences and/or walls where they will provide a green façade of potential value to foraging birds and insects.
- 5.18 Where horticultural stock that requires hard pruning is used such as willow *Salix* sp., dogwood *Cornus* sp., hazel *Corylus* sp. ash, poplar *Populus* sp. etc., small sections should be cut to the ground (coppiced) on an alternating basis e.g. every 5-10 years, to ensure that a good proportion of flowering/fruiting growth is present in any given season. Works should be carried out in the late winter when disturbance to wildlife and removal of flowering or fruiting material providing valuable forage will be minimal. The arisings could be used to create habitat piles in remaining areas of tree/shrub planting or other undisturbed areas of the site.

References

Arun District Council (2003). Arun District Local Plan . [on-line]. Available from v <http://www.arunlocalplan.net/> [Accessed: 30.08.2012].

BSI (2012). BS 5837:2012- *Trees in relation to design, demolition and construction*.

Department of Transport (2010). *Design Manual for Roads and Bridges (2010) Mitigating against the effects on badgers. HA 59/92, amendment to Chapter 5.3. 10, (4), Part 2*. London: Department for Transport [on line]. Available from <http://www.standardsforhighways.co.uk/dmrb/vol10/section4/ha5992.pdf> [Accessed 30.08.2012].

English Nature (2004). *Reptiles: guidelines for developers*. Peterborough: English Nature [on-line]. Available from <http://naturalengland.etraderstores.com/naturalenglandshop/UserFiles/Files/IN15.1.pdf> [Accessed 30.08.2012].

Froglife (1999). *Froglife Advice Sheet 10: Reptile Survey, an introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Halesworth: Froglife. [on-line]. Available from <http://www.froglife.org/documents/FroglifeAdviceSheet10.pdf> [Accessed 30.08.2012].

HMSO. (1994). *Biodiversity – the UK Action Plan* (Cm 2428) HMSO, London.

IEEM (Institute of Ecology and Environmental Management) (2006) Guidelines for Ecological Impact Assessment in the United Kingdom (version 7 July 2006). [On-line] Available from <http://www.ieem.org.uk/ecia/index.html> [Accessed: 30.08.2012].

JNCC (2010). *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council. Reprinted by Joint Nature Conservation Committee, Peterborough.

JNCC. (2010). *UK Biodiversity Action Plan: New List of Priority Species and Habitats*. [On-line]. Available from <http://www.ukbap.org.uk/NewPriorityList.aspx> [Accessed: 30.08.2012].

MAGIC (2012). *Multi-Agency Geographic Information for the Countryside*. [On-line]. Available from www.magic.gov.uk [Accessed: 30.08.2012].

Natural England (2009a). *Guidance on ‘Current Use’ in the definition of a Badger Sett*. Peterborough: Natural England [on-line]. Available from http://www.naturalengland.org.uk/Images/WMLG17_tcm6-11815.pdf [Accessed 30.08.2012].

Natural England (2009b) *Interpretation of ‘Disturbance’ in relation to badgers occupying a sett*. Peterborough: Natural England [on-line]. Available from http://www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf [Accessed 30.08.2012].

Natural England (2009c). *Badgers and Development: A Guide to Best Practice and Licensing*. Peterborough: Natural England.

Natural England. (2011). *Nature on the Map*. [On-line] Available from: <http://www.natureonthemap.org.uk/map.aspx> [Accessed: 30.08.2012].

Newton, J., Nicolson, B., Saunders, R., Willets, R., Williams, C. & Venerables, J. (2011). *Working With Wildlife: Guidance for the Construction Industry*. CIRIA, London.

Stace, C.A. (2010). *New Flora of the British Isles* (3rd Ed.). Cambridge University Press, Cambridge.

Sussex Biodiversity Partnership (2001). *From Rio To Sussex: Sussex Biodiversity Action Plan*. [on-line]. Available from <http://www.biodiversitysussex.org> [Accessed: 30.08.2012].

Appendix 1: Habitat Plan



Appendix 2: Photographs

Photograph 1

Drainage ditch running north to south through site- sparse bank vegetation and very shallow water level with dense tall ruderal and scrub on top of banks only.



Photograph 2

Mature oak tree in north western site limit with several features of bat roosting potential including dead and split wood.



Photograph 3

View across site looking east over semi-improved grassland –line of conifers along northern boundary.



Appendix 3: Plant Species List

Plant Species List for The Vinery compiled from the Preliminary Ecological Appraisal survey carried out on the 11th September 2012

Scientific nomenclature follows Stace (2010) for vascular plant species. Vascular plant common names follow the Botanical Society of the British Isles (BSBI) 2003 list, published on its web site, www.bsbi.org.uk. Please note that this plant species list was generated as part of a Preliminary Ecological Appraisal and does not constitute a full botanical survey. It should be read in conjunction with the associated report.

Abundance was estimated using the DAFOR scale as follows:

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

s=seedling or sucker, p =planted, t =tree

Latin Name	Common name	Abundance	Qualifiers
<i>Acer palmatum</i>	Japanese maple	R	p
<i>Acer pseudoplatanus</i>	Sycamore	O	t
<i>Ajuga reptans</i>	Bugle	O	
<i>Alopecurus pratensis</i>	Meadow foxtail	R	
<i>Anthriscus sylvestris</i>	Cow parsley	O	
<i>Arctium minus</i>	Lesser burdock	A	
<i>Arrhenatherum elatius</i>	False oat-grass	F	
<i>Artemisia absinthium</i>	Wormwood	O	
<i>Ballota nigra</i>	Black horehound	R	
<i>Bellis perennis</i>	Daisy	O	
<i>Bryonia dioica</i>	White bryony	R	
<i>Buddleja davidii</i>	Butterfly bush	R	s
<i>Calystegia sepium</i>	Hedge bindweed	R	
<i>Capsella bursa-pastoris</i>	Shepherd's-purse	R	
<i>Centaurea nigra</i>	Common knapweed	R	
<i>Cerastium fontanum</i>	Common mouse-ear	O	
<i>Chamerion angustifolium</i>	Rosebay willowherb	R	
<i>Cirsium arvense</i>	Creeping thistle	R	
<i>Cirsium sp.</i>	Thistle	O	
<i>Conzya canadensis</i>	Canadian fleabane	R	
<i>Convolvulus arvensis</i>	Field Bindweed	F	
<i>Cornus spp.</i>	Dogwoods	O	
<i>Corylus avellana</i>	Hazel	R	
<i>Cotoneaster spp.</i>	Cotoneasters	R	p
<i>Crataegus monogyna</i>	Hawthorn	O	

Latin Name	Common name	Abundance	Qualifiers
<i>Cupressocyparis leylandii</i>	Leyland cypress	D	tp
<i>Dactylis glomerata</i>	Cock's-foot	O	
<i>Diploaxis muralis</i>	Annual wall-rocket	O	
<i>Dipsacus fullonum</i>	Teasel	O	
<i>Elytrigia repen</i>	Couch grass	O	
<i>Epilobium hirsutum</i>	Great willowherb	R	
<i>Euonymus sp.</i>	Spindle	O	
<i>Fagus sylvatica</i>	Beech	O	
<i>Festuca rubra</i>	Red fescue	F	
<i>Fraxinus excelsior</i>	Ash	O	tps
<i>Galium aparine</i>	Cleavers	F	
<i>Geranium dissectum</i>	Cut-leaved crane's-bill	R	
<i>Geranium robertianum</i>	Herb-Robert	R	
<i>Geranium rotundifolium</i>	Round-leaved crane's-bill	R	
<i>Hedera helix</i>	Ivy	O	
<i>Helminthotheca echioides</i>	Bristly oxtongue	R	
<i>Heracleum sphondylium</i>	Hogweed	O	
<i>Holcus lanatus</i>	Yorkshire-fog	O	
<i>Hordeum murinum</i>	Wall barley	R	
<i>Hypericum perforatum</i>	St John's wort	R	
<i>Hypochaeris radicata</i>	Cat's-ear	F	
<i>Ilex aquifolium</i>	Holly	O	
<i>Lactuca serriola</i>	Prickly lettuce	R	
<i>Lamium album</i>	White dead-nettle	F	
<i>Leucanthemum vulgare</i>	Oxeye daisy	R	
<i>Ligustrum ovalifolium</i>	Garden privet	R	p
<i>Lolium perenne</i>	Perennial rye-grass	D	
<i>Malva sp.</i>	Mallow	R	
<i>Matricaria sp</i>	Mayweed	R	
<i>Myosotis arvensis</i>	Field forget-me-not	R	
<i>Narcissus sp.</i>	Daffodil	R	p
<i>Picris sp.</i>	Oxtongue	R	
<i>Plantago lanceolata</i>	Ribwort plantain	R	
<i>Poa pratensis</i>	Smooth meadow-grass	F	
<i>Populus sp.</i>	Poplar	O	tp
<i>Polygonum aviculare</i>	Knot-grass	R	
<i>Prunus spinosa</i>	Blackthorn	F	
<i>Pteridium aquilinum</i>	Bracken	LD	
<i>Pyracantha spp.</i>	Firethorns	R	p
<i>Quercus robur</i>	Pedunculate oak	R	tp

Latin Name	Common name	Abundance	Qualifiers
<i>Ranunculus repens</i>	Creeping buttercup	O	
<i>Rosa arvensis</i>	Field-rose	R	
<i>Rubus fruticosus agg.</i>	Bramble	F	
<i>Rumex acetosella</i>	Sheep's-sorrel	R	
<i>Rumex sp.</i>	Dock	O	
<i>Salix sp.</i>	Willow	R	tp
<i>Sambucus nigra</i>	Elder	O	
<i>Senecio jacobaea</i>	Common ragwort	R	
<i>Stachys sylvatica</i>	Hedge woundwort	R	
<i>Taraxacum sp.</i>	Dandelion	O	
<i>Trifolium repens</i>	White clover	R	
<i>Tripleurospermum inodorum</i>	Scentless mayweed	R	
<i>Ulmus minor</i>	Small leaved elm	F	
<i>Urtica dioica</i>	Common nettle	D	
<i>Veronica persica</i>	Common field-speedwell	O	

Appendix 4: Legislation & Planning Policy

Important notice: This section contains details of legislation and planning policy applicable in Britain only (i.e. not including the Isle of Man, Northern Ireland, the Republic of Ireland or the Channel Islands) and is provided for general guidance only. While every effort has been made to ensure accuracy, this section should not be relied upon as a definitive statement of the law.

A NATIONAL LEGISLATION AFFORDED TO SPECIES

The objective of the EC Habitats Directive³ is to conserve the various species of plant and animal which are considered rare across Europe. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (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) is a key piece of national legislation which implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection obligations of Council Directive 2009/147/EC (formerly 79/409/EEC) on the Conservation of Wild Birds (EC Birds Directive) in Great Britain.

Since the passing of the Wildlife & Countryside Act 1981, various amendments have been made, details of which can be found on www.opsi.gov.uk. Key amendments have been made through the Countryside and Rights of Way (CROW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

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

³ Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora

Species and species groups that are protected or otherwise regulated under the aforementioned domestic and European legislation, and that are most likely to be affected by development activities, include herpetofauna (amphibians and reptiles), badger, bats, birds, dormouse, invasive plant species, otter, plants, red squirrel, water vole and white clawed crayfish.

Explanatory notes relating to species protected under The Conservation of Habitats and Species Regulations 2010 (as amended) (which includes smooth snake, sand lizard, great crested newt and natterjack toad), all bat species, otter, dormouse and some plant species) are given below. **These should be read in conjunction with the relevant species sections that follow.**

- In the Directive, the term ‘deliberate’ is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.
- The Conservation of Habitats and Species Regulations 2010 does not define the act of ‘migration’ and therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.
- In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three ‘tests’: i) the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment; ii) that there is no satisfactory alternative and iii) that the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

Bats

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species as:
 - a) to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young;

- (ii) to hibernate or migrate³
- b) to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

Bats are also currently protected 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;
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

How is the legislation pertaining to bats liable to affect development works?

A European Protected Species (EPS) Licence issued by the relevant countryside agency (e.g. 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 those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity of a local population.

Dormice

Dormice *Muscardinus avellanarius* are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. dormice)
- Deliberate disturbance of dormice as:
 - a) to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young;
 - (ii) to hibernate or migrate

- b) to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

Dormice are also currently protected 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
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

How is the legislation pertaining to dormice liable to affect development works?

A European Protected Species (EPS) Licence issued by the relevant countryside agency (e.g. 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 (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Badgers

Badgers *Meles meles* receive protection under The Protection of Badgers Act 1992 which consolidates the previous Badger Acts of 1973 and 1991. The Act makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure or take a badger;
- Cruelly ill-treat a badger, including use of tongs and digging;
- Possess or control a dead badger or any part thereof;

- Intentionally or recklessly damage, destroy or obstruct access to a badger sett⁴ or any part thereof;
- Intentionally or recklessly disturb⁵ a badger when it is occupying a badger sett;
- Intentionally or recklessly cause a dog to enter a badger sett;
- Sell or offers for sale, possesses or has under his control, a live badger.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the Wildlife and Countryside Act 1981 (as amended). Among other things, this makes it 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;
- Intentionally take or destroy an egg of any wild bird;
- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.

Certain species of bird, for example the barn owl, black redstart, hobby, bittern and kingfisher 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:

⁴ 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

⁵ 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.

- 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.

How is the legislation pertaining to birds liable to affect development works?

To avoid contravention of the Wildlife and Countryside Act 1981 (as amended), works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August⁶. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Those species of bird listed on Schedule 1 are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Herpetofauna (Amphibians and Reptiles)

Widespread species of herpetofauna are protected solely under Schedule 5 of the Wildlife & Countryside Act 1981 (as amended). Species such as the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis* are listed in respect to Section 9(1) & (5). For these species, it is prohibited to:

- Intentionally kill or injure these species
- Sell, offer or expose for sale, possess or transport for purpose of sale these species, or any part thereof.

Common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris* and palmate newt *L. helveticus* are listed in respect to Section 9(5) only which affords them protection against sale, offering or exposing for sale, possession or transport for the purpose of sale.

⁶ It should be noted that this is the main breeding period. Breeding activity may occur outwith 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.

How is the legislation pertaining to herpetofauna liable to affect development works?

A European Protected Species (EPS) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect the breeding sites or resting places of those amphibian and reptile species protected under The Conservation Habitats and Species Regulations 2010. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the Wildlife and Countryside Act 1981 (as amended).

Wild Mammals (Protection) Act 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it 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, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

B NATIONAL AND EUROPEAN LEGISLATION AFFORDED TO HABITATS

Statutory Designations: National

Nationally important areas of special scientific interest, by reason of their flora, fauna, or geological or physiographical features, are notified by the countryside agencies as statutory **Sites of Special Scientific Interest** (SSSIs) under the National Parks and Access to the Countryside Act 1949 and latterly the Wildlife & Countryside Act 1981 (as amended). As well as underpinning other national designations (such as **National Nature Reserves** which are declared by the countryside agencies under the same legislation), the system also provides statutory protection for terrestrial and coastal sites which are important within a European context (Natura 2000 network) and globally (such as Wetlands of International Importance). See subsequent sections for details of these designations. Improved provisions for the protection and management of SSSIs have been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales).

The Wildlife & Countryside Act 1981 (as amended) also provides for the making of **Limestone Pavement Orders**, which prohibit the disturbance and removal of limestone from such designated areas, and the designation of **Marine Nature Reserves**, for which byelaws must be made to protect them.

Statutory Designations: International

Special Protection Areas (SPAs), together with **Special Areas of Conservation** (SACs) form the **Natura 2000** network. The Government is obliged to identify and classify SPAs under the EC Birds Directive (Council Directive 2009/147/EC (formerly 79/409/EEC)) on the Conservation of Wild Birds). SPAs are areas of the most important habitat for rare (listed on Annex I of the Directive) and migratory birds within the European Union. Protection afforded SPAs in terrestrial areas and territorial marine waters out to 12 nautical miles (nm) is given by The Conservation of Habitats & Species Regulations 2010 (as amended). The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a mechanism for the designation and protection of SPAs in UK offshore waters (from 12-200nm).

The Government is obliged to identify and designate SACs under the EC Habitats Directive (Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora). These are areas which have been identified as best representing the range and

variety of habitats and (non-bird) species listed on Annexes I and II to the Directive within the European Union. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are protected under The Conservation of Habitats & Species Regulations 2010 (as amended). The Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended) provide a mechanism for the designation and protection of SACs in UK offshore waters (from 12-200 nm).

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and wise use, in particular recognizing wetlands as ecosystems that are globally important for biodiversity conservation. Wetlands can include areas of marsh, fen, peatland or water and may be natural or artificial, permanent or temporary. Wetlands may also incorporate riparian and coastal zones adjacent to the wetlands. 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. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites. This effectively extends the level of protection to that afforded to sites which have been designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs).

Statutory Designations: Local

Under the National Parks and Access to the Countryside Act 1949 **Local Nature Reserves** (LNRs) may be declared by local authorities after consultation with the relevant countryside agency. LNRs are declared for sites holding special wildlife or geological interest at a local level and are managed for nature conservation, and provide opportunities for research and education and enjoyment of nature.

Non-Statutory Designations

Areas considered to be of local conservation interest may be designated by local authorities as a **Wildlife Site**, under a variety of names such as **County Wildlife Sites** (CWS), **Listed Wildlife Sites** (LWS), **Local Nature Conservation Sites** (LNCS), **Sites of Biological Importance**

(SBIs), **Sites of Importance for Nature Conservation** (SINCs), or **Sites of Nature Conservation Importance** (SNCIs). The criteria for designation may vary between counties.

Together with the statutory designations, these are defined in local and structure plans under the Town and Country Planning system and are a material consideration when planning applications are being determined. The level of protection afforded to these sites through local planning policies and development frameworks may vary between counties.

Regionally Important Geological and Geomorphological Sites (RIGS) are the most important places for geology and geomorphology outside land holding statutory designations such as SSSIs. Locally-developed criteria are used to select these sites, according to their value for education, scientific study, historical significance or aesthetic qualities. As with local Wildlife Sites, RIGS are a material consideration when planning applications are being determined.

C NATIONAL PLANNING POLICY

National Planning Policy Framework

The National Planning Policy Framework replaces PPS9 (from April 2012) and emphasises the need for sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and priority species. An emphasis is also made for the need for ecological networks via preservation, restoration and re-creation. The protection and recovery of priority species – presumably those listed as UK Biodiversity Action Plan priority species – is also listed as a requirement of planning policy. In determining planning application, planning authorities have a duty to conserve and enhance biodiversity by ensuring that: designated sites are protected from adverse harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 40 of the Act requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the ‘biodiversity duty’.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of ‘principal importance for the conservation of biodiversity.’ This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

D REGIONAL AND LOCAL PLANNING POLICY

The **South East Plan (2009)** includes the following Core Regional Policies that are relevant to the site.

Policy NRM5: Conservation and Improvement of Biodiversity

“Local planning authorities and other bodies shall avoid a net loss of biodiversity, and actively pursue opportunities to achieve a net gain across the region.

- (i) They must give the highest level of protection to sites of international nature conservation importance (European sites⁷). Plans or projects implementing policies in this RSS are subject to the Habitats Directive. Where a likely significant effect of a plan or project on European sites cannot be excluded, an appropriate assessment in line with the Habitats Directive and associated regulations will be required.*
- (ii) If after completing an appropriate assessment of a plan or project local planning authorities and other bodies are unable to conclude that there will be no adverse effect on the integrity of any European sites, the plan or project will not be approved, irrespective of conformity with other policies in the RSS, unless otherwise in compliance with 6(4) of the Habitats Directive.*
- (iii) For example when deciding on the distribution of housing allocations, local planning authorities should consider a range of alternative distributions within their area and should distribute an allocation in such a way that it avoids adversely affecting the integrity of European sites. In the event that a local planning authority concludes that it cannot distribute an allocation accordingly, or otherwise avoid or adequately mitigate any adverse effect, it should make provision up to the level closest to its original allocation for which it can be concluded that it can be distributed without adversely affecting the integrity of any European sites.*
- (iv) They shall avoid damage to nationally important sites of special scientific interest and seek to ensure that damage to county wildlife sites and locally important wildlife and geological sites is avoided, including additional areas outside the boundaries 6 ‘European sites’ is the term used to encompass sites that have the highest level of protection in the UK either through legislation or policy. These are Special Areas of Conservation (SACs), candidate SACs (cSACs), Special Protection Areas (SPAs), proposed SPAs (pSPAs) and Ramsar sites. Natural Resource Management 919 The*

⁷ ‘European sites’ is the term used to encompass sites that have the highest level of protection in the UK either through legislation or policy. These are Special Areas of Conservation (SACs), candidate SACs (cSACs), Special Protection Areas (SPAs), proposed SPAs (pSPAs) and Ramsar sites.

South East Plan - Regional Spatial Strategy for the South East of European sites where these support the species for which that site has been selected.

- (v) They shall ensure appropriate access to areas of wildlife importance, identifying areas of opportunity for biodiversity improvement and setting targets reflecting those in the table headed 'Regional Biodiversity Targets - Summary for 2010 and 2026' below. Opportunities for biodiversity improvement, including connection of sites, large-scale habitat restoration, enhancement and re-creation in the areas of strategic opportunity for biodiversity improvement (Diagram NRM3) should be pursued*
- (vi) They shall influence and applying agri-environment schemes, forestry, flood defence, restoration of mineral extraction sites and other land management practices to:*
 - deliver biodiversity targets*
 - increase the wildlife value of land*
 - reduce diffuse pollution*
 - protect soil resources.*
- (vii) They shall promote policies that integrate the need to accommodate the changes taking place in agriculture with the potential implications of resultant development in the countryside.*
- (viii) They shall require green infrastructure to be identified, developed and implemented in conjunction with new development”.*

Policy CC4: Sustainable Design and Construction

“The design and construction of all new development, and the redevelopment and refurbishment of existing building stock will be expected to adopt and incorporate sustainable construction standards and techniques. This will include:

“consideration of how all aspects of development form can contribute to securing high standards of sustainable development including aspects such as energy, water efficiency and biodiversity gain” ,,,,,

E LOCAL PLANNING POLICY

The Arun District Local Plan (2003) contains the following saved policies of relevance to the site:

POLICY GEN28 TREES AND WOODLANDS

Development will not be permitted if it would damage or destroy one or more trees protected by a tree preservation order, identified as ancient woodland or in a conservation area unless:

the removal of one or more trees would be in the interests of good arboricultural practice;
or

the benefits of the proposed development outweigh the amenity value of the protected trees.

Conditions may be used to ensure that, for any trees which are removed as part of a development, an equivalent number are planted on the site.

POLICY GEN29 NATURE CONSERVATION ACROSS THE DISTRICT

Development will only be permitted on sites which contain semi-natural habitats, features of nature conservation interest, or within wildlife corridors, where these can be largely retained and sympathetically incorporated into the scheme. Legal agreements may be used to offset the loss of, or impact on, any nature conservation resource present on the site prior to development.

POLICY AREA13 SITES OF INTERNATIONAL IMPORTANCE FOR NATURE CONSERVATION

Proposals for development in, or likely to affect (directly or indirectly) a site of international importance for nature conservation will be subject to the most rigorous examination. Development not directly connected with or necessary to the management of the site which is likely to have an adverse effect on the site, will not be permitted unless: there is no alternative solution, there are reasons of public health or public safety, or there are benefits of primary importance to the environment.

Where such sites do not host a priority habitat or species, development will not be permitted unless there are imperative reasons of overriding public interest.

Where development is permitted, the use of conditions or planning obligations will be considered in order to avoid and minimise harm to the site, to enhance the site's nature conservation interest, and to secure any compensatory or mitigation measures and appropriate management that may be required.

POLICY AREA14 SITES OF NATIONAL IMPORTANCE FOR NATURE CONSERVATION

Proposals for development in, or likely to affect (directly or indirectly) Sites of Special Scientific Interest will be subject to special scrutiny. Where such development is likely to have an adverse effect, it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites.

Where the site concerned is a National Nature Reserve, a site identified by the Nature Conservation Review or Geological Conservation Review, particular regard will be paid to the national importance of that site.

Where development is permitted, harm to the nature conservation interest must be minimised. The use of conditions or planning agreements will be considered to ensure the protection and enhancement of the nature conservation interest, and to provide appropriate compensatory or mitigation measures and site management.

POLICY AREA15 SITES OF LOCAL IMPORTANCE FOR NATURE CONSERVATION

Proposals for development in, or likely to have an adverse effect (directly or indirectly) on a Local Nature Reserve, Site of Nature Conservation Importance (including ancient woodlands or wildlife corridors) or Regionally Important Geological/Geomorphological Site will not be permitted unless it can be demonstrated that reasons for the proposal outweigh the need to safeguard the nature conservation value of the site/feature. Where development is permitted which would damage the nature conservation value of the site/feature, such damage should be kept to a minimum.

Conditions or planning obligations will be used to secure necessary compensatory or mitigation measures, enhancement and site management.

Where appropriate, the Authority will consider the use of legal agreements to provide appropriate compensatory measures, enhancement and site management.

E UK BAP

In 1994 the UK Government published its response to the Convention on Biological Diversity that it signed along with over 150 other nations at the Rio Earth Summit in 1992. Biodiversity – the UK Action Plan (HM Government 1994) and subsequent publications (e.g. UK Steering Group 1995) set out a programme for the national Biodiversity Action Plan (BAP), including the development of targets for biodiversity, and the techniques and actions necessary to achieve them. The national BAP includes lists of species that are of conservation concern, either because they are rare in an international or national context or have undergone serious declines in their populations in recent years. Species Action Plans have been prepared or are in preparation for a many of these species, whilst Habitat Action Plans are being produced for important or characteristic habitats identified in the plan.

F REGIONAL AND LOCAL BAPS

The UK plan also encourages the production of local Biodiversity Action Plans at the County or District level.

Specific HAPs and SAPs listed in the UK and Sussex BAPs which are of potential relevance to this site include:

- Soprano pipistrelle;
- Noctule bat;
- European hare;
- Slow-worm: and
- Common toad.



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