



**LAND AT FLOWERS DROVE AND SUNNYSIDE FARM, LYTCHETT MATRAVERS  
ECOLOGICAL APPRAISAL**

**Rev A**

**Prepared for Wyatt Homes**

**by**

**Hankinson Duckett Associates**

**HDA ref: 813.13**

**July 2017**

## **CONTENTS**

	<b>Page</b>	
1	Introduction	1
2	Methodology	1
3	Desk study	3
4	Phase 1 Habitat Survey	13
5	Protected and notable species	16
6	Nature conservation evaluation	18
7	Additional data requirements	20
8	Conclusion and recommendations	22
9	References	31

HDA Document Control and Quality Assurance Record

## **APPENDICES**

- A Desk Study Results
- B Phase 1 Habitat Survey: Map and Target Notes
- C Evaluation Criteria

## **1 INTRODUCTION**

- 1.1 This report describes an Ecological Appraisal of approximately 1.86ha of land off Flowers Drove, Lytchett Matravers, Dorset, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference SY 9476 9576. The study was commissioned by Wyatt Homes in May 2017.
- 1.2 The site is located between Flowers Drove and Wimborne Road on the north-eastern edge of the settlement of Lytchett Matravers. The site is bound to the west by Flowers Drove and residential properties beyond; to the north by grassland paddocks; to the east by residential properties; to the south-east by Wimborne Road with residential properties and grassland fields beyond; and to the south by residential properties along Wimborne Road and Lime Kiln Road with residential development beyond.
- 1.3 The site is being promoted for residential development in the local plan including approximately 30 new dwellings with associated infrastructure and landscaping. The extent of the site is shown on the plan in *Appendix B*.
- 1.4 The aims of the study are:
- i. To assess the likely nature conservation importance of habitats within the site;
  - ii. To assess the likely presence of protected species and Habitats and Species of Principal Importance identified under Section 41 of the 2006 Natural Environment and Rural Communities (NERC) Act;
  - iii. To identify any potential constraints to development due to the above;
  - iv. To identify requirements for any additional ecological surveys in support of a planning application; and
  - v. To identify measures to avoid and mitigate potential effects of development on identified features of ecological interest.

## **2 METHODOLOGY**

### **2.1 Desk Study**

- 2.1.1 Existing ecological and nature conservation data relevant to the site was collated from various sources including the 'Multi Agency Geographic Information for the Countryside' (MAGIC) online database (<http://magic.defra.gov.uk>) and Dorset Environmental Records Centre (DERC). All relevant protected species records were obtained from DERC for an area of approximately 2km around the site and a check for statutory designated sites within up to 10km of the site was carried out using the MAGIC database. The findings of the desk study are summarised in *Section 3* below and the full results are given in *Appendix A*.

## **2.2 Field Survey**

2.2.1 The field survey comprised an extended Phase 1 Habitat survey (JNCC, 2010) carried out by Alex Leishman GradCIEEM on 8<sup>th</sup> June 2017.

### *Phase 1 Habitat survey*

2.2.2 The extended Phase 1 Habitat survey involved walking over the site, mapping the main habitat types and compiling detailed 'target notes'. Target notes record habitat features and a list of vascular plant species noted, together with a qualitative assessment of relative abundance, where appropriate. The full results of the Phase 1 Habitat survey are given in *Appendix B*. Botanical names follow Stace (2010) for higher plants.

### *Other species*

2.2.3 Observations on the presence, or potential presence, of protected species were recorded as incidental information to the extended Phase 1 Habitat survey and this information should not be relied on as a comprehensive assessment of the presence or otherwise of all protected species on the site. This is because there is a wide range of protected species, many of which can occur on one site and most require specialist expertise to locate them and/ or season-critical survey techniques to confirm their presence, and this is outside the scope of the present report.

2.2.4 A total of one hour was spent carrying out the field survey. Weather conditions were warm with rain showers.

## **2.3 Evaluation Criteria**

2.3.1 The evaluation of the site, and the habitats within it, is based on the results of the field survey described above, any designations pertaining to the site and existing ecological information collected during the desk study.

2.3.2 Each ecological resource (site, habitat, species or feature) was assigned a value at the following geographic scales (CIEEM, 2016):

- International
- National (England/ Scotland/ Wales/ Northern Ireland)
- Regional
- County / Metropolitan
- District / Borough
- Local/ Parish
- within immediate zone of influence only (site/ negligible)

2.3.3 Assigning value is relatively straightforward in the case of designated sites, and undesignated sites meeting designation criteria. However, in most cases evaluation of

ecological resources is not straightforward and requires a degree of knowledge, training, experience and professional judgement (Usher, 1986; Spellerberg, 1992). Evaluation of an ecological resource was based on a number of criteria (Ratcliffe, 1977; CIEEM 2016). These are summarised in *Appendix C*.

2.3.4 The potential for protected species and Habitats and Species of Principal Importance identified under Section 41 of the 2006 NERC Act to be present within the site has been assessed based on the habitats and features present and the results of the desk study.

## 2.4 Limitations

2.4.1 The desk study and field survey were not subject to any significant constraints and the surveys conducted are considered adequate to make a robust assessment of the site's likely nature conservation significance and to form the basis of the recommendations provided in *Sections 7 and 8*.

## 3 DESK STUDY

### 3.1 Introduction

3.1.1 The following section summarises the findings of the desk study. The original data is provided in *Appendix A*.

### 3.2 Designated Sites

3.2.1 No statutory or non-statutory nature conservation designations pertain to the site. This is confirmed by information from the MAGIC online database (Defra, 2017) and DERC. The extent of designated areas in the vicinity of the site are illustrated on the plans in *Appendix A* and are described below.

#### Statutory designated areas

##### *Internationally designated areas*

3.2.2 Six internationally designated areas are located within 10km of the site boundary. These are listed in *Table 1* below together with a brief description and location details in relation to the closest parts to the site.

**Table 1:** Internationally designated areas within 10km of the site

Designated area	Distance and direction from site	Description and reason for designation
Dorset Heaths Special area of Conservation (SAC)	2.1km east; 3.5km south; 4.4km south-west	The qualifying features within the SAC include wet heaths with <i>Erica tetralix</i> , dry heaths and peat substrates, calcareous fens, and populations of Southern Damselfly <i>Coenagrion mercuriale</i> and Great Crested Newt. Forms part of the Dorset Heathlands SPA.

Designated area	Distance and direction from site	Description and reason for designation
Dorset Heathlands Ramsar	2.1km east; 3.2km south; 4.4km south-west	Covers a similar area to Dorset Heaths SAC described above. The Ramsar is designated for the heathland habitats and bird populations that it supports.
Dorset Heathlands Special Protection Area (SPA)	2.6km east; 3.2km south; 4.4km south-west	An extensive area of open heathland, scrub and woodland supporting internationally important numbers of breeding Nightjar, Woodlark and Dartford Warbler, as well as wintering Hen Harrier and Merlin.
Poole Harbour SPA	3.7km south-east	Coastal estuary designated for the populations of breeding terns and gulls, and wintering and migrating waterbirds that it supports.
Poole Harbour Ramsar	3.7km south-east	Covers a similar area to the Poole Harbour SPA and is designated for the populations of birds it supports, in addition to rare invertebrate, plant and algae species.
Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC	5.4km south-west	The SAC is designated for its exceptional heathland, sand dune and bog woodland habitats, and population of Southern Damselfly. Forms part of the Dorset Heathlands SPA and Ramsar.

#### *Nationally designated areas*

3.2.3 Seven Sites of Special Scientific Interest (SSSIs) are located within 5km of the site. The closest of these is Corfe Mullen Pastures SSSI, which is located approximately 2.1km east of the site. Parts of the SSSI form part of Dorset Heaths SAC and Dorset Heathlands Ramsar as described in *Table 1* above. Corfe Mullen Pastures is designated a SSSI primarily for its unimproved grassland and mire habitats which support a number of rare plant species.

3.2.4 Other SSSIs within the vicinity of the site include:

- Upton Heath SSSI (forming part of the Dorset Heaths SAC/ Dorset Heathlands SPA and Ramsar), which is located approximately 2.55km to the south-east. This SSSI is designated for its dry heathland, wet heathland and bog habitats, and diverse fauna which includes Smooth Snake, Sand Lizard, Dartford Warbler, Nightjar and Woodlark, as well as a range of rare invertebrates;
- Holton and Sandford Heaths SSSI (forming part of the Dorset Heathlands SPA and Ramsar/ Dorset Heaths SAC), which is located approximately 3.3km south of the site. This SSSI is designated for its dry and wet heathland and acid grassland habitats which are of national importance for their communities of plants, birds, reptiles and invertebrates, including Sand Lizard, Smooth Snake, Dartford Warbler and Woodlark;
- Poole Harbour SSSI (forming part of the Poole Harbour SPA and Ramsar), which is located approximately 3.7km to the south-east. This SSSI is designated for its estuary habitats including marshes and mudflats which are of national importance for wintering wildfowl and waders, as well as for populations of rare marine invertebrates;
- Morden Bog and Hyde Heath SSSI (forming parts of the Dorset Heaths SAC/ Dorset Heathlands SPA and Ramsar, and 'Dorset Heaths [Purbeck and Wareham] and Studland Dunes' SAC), which is located approximately 4.4km to the south-west. This SSSI is designated for its wet and dry heathland habitats supporting nationally important populations of Smooth Snake, Sand Lizard, Dartford Warbler, Nightjar and Woodlark, as well as a range of rare plants and invertebrates;

- Corfe & Barrow Hills SSSI (forming part of Dorset Heathlands SPA and Ramsar/ Dorset Heaths SAC), which is located approximately 4.6km to the east. This SSSI is designated for its wet and dry heathland habitats which support significant pollutions of Sand Lizard, Smooth Snake, Dartford Warbler and rare invertebrate species.

3.2.5 The site falls within the following SSSI Impact Risk Zones (IRZs) as identified from the MAGIC online database:

- 2-3km IRZs for Corfe Mullen Pastures SSSI and Upton Heath SSSI (and associated Dorset Heaths SAC, Dorset Heathlands SPA and Ramsar);
- 3-4km IRZ for Holton and Sandford Heaths SSSI (and associated Dorset Heaths SAC, Dorset Heathlands SPA and Ramsar);
- 3-4km IRZ for Poole Harbour SSSI (and associated Poole Harbour SPA and Ramsar);
- 4-5km IRZ for 'Morden Bog and Hyde Heath' SSSI (and associated Dorset Heaths SAC, Dorset Heathlands SPA and Ramsar, and 'Dorset Heaths (Purbeck and Wareham) and Studland Dunes' SAC); and
- 4-5km IRZ for Corfe & Barrow Hills SSSI (and associated Dorset Heaths SAC, Dorset Heathlands SPA and Ramsar).

3.2.6 IRZs are used by Natural England to identify development activities in the vicinity of SSSIs, SACs, SPAs and Ramsar sites which in the absence of avoidance and mitigation measures may adversely affect designated features, thereby requiring planning authorities to consult with Natural England where potentially damaging activities are proposed. The IRZs in which the site falls include '*Any residential developments with a total net gain in residential units*' as a development type with potential to adversely impact the abovementioned SSSIs, SACs, SPAs and Ramsar sites, and as such, the planning authority would be expected to consult Natural England with regard to development of the site. Potential effects of development within the site on these designated areas are considered further in *Section 8* below.

3.2.7 Two National Nature Reserves (NNRs) are located within 5km of the site. The closest of these to the site is Holten Heath NNR, which is located approximately 3.7km south of the site, and forms part of Holton and Sandford Heaths SSSI, Dorset Heaths SAC/ Dorset Heathlands SPA and Ramsar as described above. Morden Bog NNR is located approximately 4.4km south-west of the site and forms part of Morden Bog and Hyde Heath SSSI and associated Dorset Heaths SAC/ Dorset Heathlands SPA and Ramsar. NNRs have been established to protect some of England's most nationally important habitats in addition to providing opportunities for research.

3.2.8 There are no Local Nature Reserves (LNRs) located within 2km of the site. The closest LNR to the site is Pine Springs LNR, located approximately 4.5km east of the site. LNRs are designated for education and public enjoyment of the habitats that they support.

### **Non-statutory designated areas**

- 3.2.9 22 Sites of Nature Conservation Importance (SNCIs) were identified by DERC within approximately 2km of the site. The closest of these to the site is Dyett's Coppice SNCI, which is located approximately 430m west of the site and is designated for its semi-natural ancient woodland. The closest SNCI to the east of the site is Rushall House SNCI, which is located approximately 560m south-east of the site and is designated for its acid grassland habitat.
- 3.2.10 No areas of woodland listed on Natural England's Inventory of Ancient Woodland are located within or adjacent to the site. The closest ancient woodland to the site is associated with Dyett's Coppice SNCI, located approximately 430m west of the site.

### **3.3 Biodiversity Action Plan (BAP) and 2006 NERC Act Habitats and Species of Principal Importance**

- 3.3.1 The UK Biodiversity Action Plan (UKBP, 2007) lists species and habitats which have undergone significant declines in recent years and for which conservation is a priority in order to preserve biodiversity in the UK. The BAPs provide a list of actions to be implemented to halt or reverse these declines.
- 3.3.2 These species and habitats are identified as Habitats and Species of Principal Importance for the conservation of biological diversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Section 40 of the 2006 NERC Act, the National Planning Policy Framework (NPPF, 2012) and underpinning guidance (ODPM, 2005) require that these habitats and species are a material consideration in the planning process.
- 3.3.3 The Dorset Biodiversity Strategy (DBP, 2003) includes action plans for habitats and species considered to be of county biodiversity importance. Of the habitats included within the Biodiversity Strategy, the site contains broad examples of lowland meadow, purple moor grass and rush pasture, and ancient/ species-rich hedgerows.
- 3.3.4 The Biodiversity Strategy contains objectives for each habitat identified. These should be considered in the design of any proposed development at the site, both in terms of impact avoidance and opportunities to enhance the site and contribute to Biodiversity Strategy targets. The objectives potentially most relevant to this site are:

#### Lowland meadows

*'Restore semi-improved and degraded areas of neutral grassland, particularly where they abut, link or buffer existing areas of conservation value.'*

*'Re-create areas of neutral grassland, targeting areas with concentrations of this habitat.'*

Purple moor grass and rush pasture

*'Maintain the extent and quality of existing habitat.'*

*'Secure sympathetic management of remaining sites, which perpetuate the species they support.'*

*'Increase the area of purple moor grass and rush pasture habitat by appropriate means, in order to buffer, link and expand existing sites.'*

Ancient and/or species-rich hedgerows

*'Maintain the current network of ancient and species-rich hedgerows'*

*'Achieve favourable management and enhancement of ancient and species-rich hedgerows'*

*'Increase the length of species-rich hedgerows in Dorset'*

*'Maintain the overall numbers of hedgerow trees to eventually obtain a balanced age structure'*

### **3.4 Protected Species**

3.4.1 Data provided by DERC has shown that there are records of protected and notable species occurring in the vicinity of the site including bats, Water Vole, Badger, birds, reptiles, amphibians, invertebrate and plant species. No records of protected or notable species pertain to the site with the possible exception of low-resolution records of Badger and Silver-washed Fritillary which pertain to the 1km OS grid square containing the site. Further details of these records are provided below.

#### 3.4.2 *Bats*

3.4.2.1 DERC provided 23 records of bats within the desk study area including a number of roost site records. These include records of at least nine species (Common Pipistrelle, Soprano Pipistrelle, *Pipistrellus* sp., Noctule, Leisler's, Serotine, Greater Horseshoe, *Myotis* sp., Barbastelle, Brown Long-eared and *Plecotus* sp.). The closest record dates from 2012 and relates to a feeding hang-up for an unspecified bat species, pertaining to a building located along Wimborne Road to the immediate east of the site.

3.4.2.2 All UK bat species are protected under The Conservation of Habitats and Species Regulations 2010 (as amended), which implements the EC Habitats Directive 92/43/EEC in the United Kingdom. In relation to European Protected Species (EPS), the 2010 Regulations make it an offence to:

- Deliberately capture, injure or kill any wild animal of an EPS.
- Deliberately disturb wild animals of any such species, in particular any disturbance which is likely to: (i) impair their ability to survive, to breed or reproduce, or to rear or

nurture their young; or to hibernate or migrate; (ii) affect significantly the local distribution or abundance of the species to which they belong.

- Damage or destroy a breeding site or resting place of such an animal.
- To (a) be in possession of, or to control; (b) to transport any live or dead animal or any part of an animal; (c) to sell or exchange or (d) offer for sale or exchange any live or dead animal or part of an animal of an EPS.

3.4.2.3 In addition, all UK bats are protected under the Wildlife and Countryside Act 1981 (as amended). All species are listed on Schedule 5 of the Act and are subject to the provisions of Sections 9.4b and 9.4c, which make it an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection.
- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat.

3.4.2.4 Seven species of bat (Barbastelle, Bechstein's, Noctule, Soprano Pipistrelle, Brown Long-eared, Greater Horseshoe and Lesser Horseshoe) are also listed as Species of Principal Importance under Section 41 of the 2006 NERC Act. Five of these species have been recorded within 2km of the site, namely Barbastelle, Noctule, Soprano Pipistrelle, Brown Long-eared bat and Greater Horseshoe.

### 3.4.3 *Otter*

3.4.3.1 2 records of Otter were provided by DERC for the desk study area. The closest record to the site relates to a road kill on the A350 approximately 1km north-east of the site.

3.4.3.2 The Otter is protected through its inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (*see Section 3.4.2.3*) and is a European Protected Species (EPS) through the EC Habitats Directive 1992 as implemented by the Conservation of Habitats and Species Regulations 2010 (as amended) (*see Section 3.4.2.2*). It is also listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act and as a Priority Species on the Dorset BAP.

### 3.4.4 *Water Vole*

3.4.4.1 One record of Water Vole was provided by DERC for the desk study area. This pertains to a group of waterbodies located approximately 2km south-west of the site and dates from 2015.

3.4.4.2 Water Voles are protected through their inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Unless permitted under a licence issued by Natural England, this makes it an offence to:

- Intentionally or recklessly kill, injure or take Water Voles;
- Possess or control live or dead specimens or anything derived from a Water Vole;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which Water Voles use for shelter or protection; or
- Intentionally or recklessly disturb Water Voles while they are using such a place,

3.4.4.3 Water Vole is also a priority species on the UKBAP and Dorset Biodiversity Strategy, and is listed as a Species of Principal Importance under Section 41 of the NERC Act (2006).

### 3.4.5 *Badgers*

3.4.5.1 Thirteen records of Badger were provided for the desk study area. Potentially the closest of these Badger records to the site dates from 2007 and pertains to the 1km OS grid square containing the site. No further details of this record were provided by DERC. The majority of other Badger records provided for the desk study area relate to road kill along the A350 located approximately 1km north-east of the site as its closest point.

3.4.5.2 Badgers and their setts are protected under the Protection of Badgers Act 1992. Unless permitted under a licence issued by Natural England, this makes it an offence to:

- Kill, injure or capture a Badger;
- Damage, destroy or obstruct access to a Badger sett; and
- Disturb Badgers while they are occupying a sett.

### 3.4.6 *Birds*

3.4.6.1 All nesting birds are afforded a basic level of protection under the Wildlife and Countryside Act 1981. Species included on Schedule 1 of the Act are afforded additional protection against disturbance when breeding. DERC provided 26 records of notable birds occurring within the desk study area relating to 19 species.

3.4.6.2 *Table 2* below details the notable bird species recorded within 2km of the site. Further details of these records are provided in *Appendix A*.

**Table 2:** Notable bird species recorded within the desk study area

Common Name	Scientific Name	Annex 1 <sup>1</sup>	WCA 1 <sup>2</sup>	NERC 41 <sup>3</sup>	BOCC4 (2015) <sup>4</sup>
Teal	<i>Anas crecca</i>				Orange
Red Kite	<i>Milvus milvus</i>				Green
Woodcock	<i>Scolopax rusticola</i>				Red
Mediterranean Gull	<i>Larus melanocephalus</i>				Orange
Barn Owl	<i>Tyto alba</i>				Green
Tawny Owl	<i>Strix aluco</i>				Orange
Peregrine Falcon	<i>Falco peregrinus</i>				Green
Marsh Tit	<i>Poecile palustris</i>				Red

Common Name	Scientific Name	Annex I <sup>1</sup>	WCA 1 <sup>2</sup>	NERC 41 <sup>3</sup>	BOCC4 (2015) <sup>4</sup>
Woodlark	<i>Lullula arborea</i>				
House Martin	<i>Delichon urbicum</i>				
Wood Warbler	<i>Phylloscopus sibilatrix</i>				
Starling	<i>Sturnus vulgaris</i>				
Song Thrush	<i>Turdus philomelos</i>				
Spotted Flycatcher	<i>Muscicapa striata</i>				
Duncock	<i>Prunella modularis</i>				
House Sparrow	<i>Passer domesticus</i>				
Hawfinch	<i>Coccothraustes coccothraustes</i>				
Bulfinch	<i>Pyrrhula pyrrhula</i>				
Yellowhammer	<i>Emberiza citrinella</i>				

Notes:

1 Species listed in Annex I of Council Directive 79/409/EEC on the conservation of wild birds

2 Species specially protected under Schedule 1 of the Wildlife and Countryside Act 1981

3 Species included in the UK Biodiversity Action Plan and of Principal Importance under the NERC Act 2006

4 Species included in the Birds of Conservation Concern Red and Amber lists (RSPB, 2015)

### 3.4.7 Reptiles

3.4.7.1 Eleven records of reptiles were provided for the desk study area including Common Lizard, Slow-worm and Grass Snake. The closest of these records were collected during a consultant survey in 2015 of an area located approximately 1.1km south of the site.

3.4.7.2 All native reptiles are protected against killing and injuring under the Wildlife and Countryside Act 1981 and are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act.

### 3.4.8 Amphibians

3.4.8.1 Two records of Great Crested Newt were provided by DERC for the desk study area including two ponds where Great Crested Newts have been recorded. The closest of these records pertains to a pond located within residential development approximately 130m south of the site, dating from pre-2005.

3.4.8.2 The Great Crested Newt is protected through its inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) (*see Section 3.4.2.3*) and is a European Protected Species (EPS) through the EC Habitats Directive 1992 as implemented by the Conservation of Habitats and Species Regulations 2010 (as amended) (*see Section 3.4.2.2*). It is also a priority species on the UKBAP and Dorset Biodiversity Strategy, and is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

3.4.8.3 One record of Common Toad was also provided for the desk study area. Common Toad is a priority species on the UKBAP and is listed as a Species of Principal Importance under Section 41 of the 2006 NERC Act.

### 3.4.9 *Invertebrates*

3.4.9.1 Records of 32 notable invertebrate species were provided by DERC for the desk study area. No records of protected invertebrates were provided.

3.4.9.2 Potentially the closest records to the site relate to Silver Washed Fritillary, which pertain to the 1km grid square containing the site. This species is listed as Dorset Notable, which means that it has been chosen as an indicator species for good quality unimproved or semi-improved habitats to assist in the selection of SNCIs. A number of other recorded invertebrate species include those identified as UKBAP priority species and listed as Species of Principal Importance under Section 41 of the 2006 NERC Act, as well as rare and scarce species listed on invertebrate red lists for Great Britain. A full list of the invertebrate records received for the search area is provided in *Appendix A*.

### 3.4.10 *Plants*

3.4.10.1 Records of 71 notable plant species were provided for the desk study area. No records of protected plants were provided, other than for Bluebell which is protected against sale only through its inclusion on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). Other notable plant records relate to Species of Principal Importance listed under Section 41 of the 2006 NERC Act, national rare and scarce species, species listed on the Vascular Plant Red List for England (Stroh et al., 2014) and Dorset Notable species, which generally pertain to nearby SNCIs.

### 3.4.11 *Other species*

3.4.11.1 Other records of notable species within 2km of the site include a record of Polecat and twelve records of Hedgehog, which are listed as Species of Principal Importance under Section 41 of the 2006 NERC Act. No records of other protected or notable species such as Dormouse were provided by DERC for the desk study area.

## 3.5 **Planning Policies**

3.5.1 Relevant saved policies from the Purbeck Local Plan Part 1 (PLP1), adopted in November 2012, relating to nature conservation and the environment include:

### **Policy BIO: Biodiversity & Geodiversity**

*'Purbeck's biodiversity and geodiversity will be protected, managed and enhanced through:*

- *The promotion of Strategic Nature Areas as identified on the Nature Map (Map 3);*
- *Efforts to enhance, link and create habitats to enable adaptation to climate change;*
- *Projects associated with the Purbeck Nature Improvement Area and the achievement of 'Wild Purbeck';*

- Encouraging development proposals to incorporate biodiversity having regard to District design guidance;
- Maintaining regionally important geological and geomorphological sites (RIGS) for their scientific and educational value; and
- Allowing natural processes to continue along the coast in order to protect any wildlife and geological features maintained by active erosion, as reflected in the Shoreline Management Plan policy.

*New Development:*

- Will need to ensure that there are no adverse effects upon the integrity of European protected sites (SPA, SAC, Ramsar, possible SAC, potential SPA).
- Within the vicinity of areas that support nationally significant numbers of Annex 1 bird species (nightjar and woodlark), undertake a risk based approach to ensure that there is no significant adverse effect upon these species and their habitats.
- Will need to ensure that there are no adverse impacts upon SSSI, for example an indirect effect of disturbance from increased public access.
- Will need to demonstrate that it avoids significant adverse impacts upon Sites of Nature Conservation Interest (SNCI), National Nature Reserves (NNR), Local Nature Reserves (LNR), Ancient Woodland, aged or veteran trees, wetland interests (for example, watercourses, ponds, reedbeds), and Habitats of Principal Importance. Any significant adverse impacts on these sites and features which cannot be avoided through location on an alternative site, must be adequately mitigated, or, as a last resort, compensated.
- Should incorporate any opportunities for biodiversity in and around the development.

*In considering the acceptability of proposals, the Council will assess their direct, indirect and cumulative impacts relative to the significance of the nature conservation value, and balance them against other sustainable development objectives.'*

**Policy DH: Dorset Heaths International Designations**

*'Development will not be permitted unless it can be ascertained that it will not lead to an adverse effect upon the integrity, of the Dorset Heaths' International designations.*

*The Council is jointly preparing a Heathlands DPD with affected neighbouring authorities to set out a long-term mitigation strategy to ensure that the growth planned for South East Dorset can be accommodated without having an adverse effect upon the integrity of the Dorset Heaths.*

*This policy will apply until the Heathlands DPD supersedes it:*

*The following forms of development (including changes of use) will not be permitted within a 400m buffer around protected heathland:*

- Residential (C3) development that would involve a net increase in dwellings;
- Purbeck Local Plan Part 1: Planning Purbeck's Future Page 83 Tourist accommodation including hotels, guest houses, boarding houses, bed and breakfast accommodation, tented camping and caravans which require planning permission (C1 uses) and self-catering tourist accommodation; and
- Equestrian-related development that may directly or indirectly result in an increased adverse impact on the heathland.

*Between 400 metres and 5km of a heathland, new residential development and tourist accommodation will be required to take all necessary steps on site to avoid or mitigate any adverse effects upon the internationally designated site's integrity or, where this cannot be achieved within the residential development, to make a contribution towards mitigation measures designed to avoid such adverse effects taking place. Measures will include:*

- *Provision of open space and appropriate facilities to meet recreation needs and deflect pressure from heathland habitats;*
- *Heathland support areas;*
- *Warden services and other heathland/harbour management;*
- *Access and parking management measures; and*
- *Green infrastructure.'*

#### **Policy PH: Poole Harbour**

##### ***'Water Quality***

*New development may be required to incorporate measures to secure effective avoidance and mitigation of the potential adverse effects of nutrient loading on the ecological integrity of the Poole Harbour internationally designated sites.*

*The Council will work with neighbouring local authorities, the Environment Agency, Wessex Water and Natural England, supported by other relevant stakeholders, to secure effective and deliverable mitigation, and mechanisms that will fund and enable implementation of these measures.*

##### ***Recreational Pressures***

*The Council will work with neighbouring local authorities, statutory bodies and landowners to manage shoreline access to Poole Harbour and implement the Poole Harbour Aquatic Management Plan to manage water based activities.'*

- 3.5.2 Although no 'Strategic Nature Areas' (SNAs) identified in Policy BIO fall within the site, the Lytchett Matravers SNA is located nearby to the east and west of the site. SNAs highlight areas considered to be most important for the maintenance, creation and linking of priority habitats in order to promote landscape scale conservation. The Lytchett Matravers SNA has been identified as being a key area primarily for woodland and secondarily for neutral grassland and 'purple moor grass and rush pasture' habitats.

## **4 PHASE 1 HABITAT SURVEY**

### **4.1 General description**

- 4.1.1 The results of the Phase 1 habitat survey are presented in map form with target notes (represented by numbered dots) in *Appendix B*. A brief non-technical description of the habitats and features of the site are given below. Numbers in brackets refer to target notes.
- 4.1.2 In general terms, the site comprises three horse-grazed grassland paddocks, generally bordered by native hedgerows, with a block of semi-mature broadleaved plantation woodland along the northern margin.

## **4.2 Grassland**

4.2.1 The site is dominated by three grassland paddocks comprising species-poor semi-improved grassland subject to intensive grazing by horses (1). All paddocks appear to have very similar species composition and have short swards with bare patches due to overgrazing. The grassland is dominated by Yorkshire Fog *Holcus lanatus* and Rough Meadow-grass *Poa trivialis* with Perennial Ryegrass *Lolium perenne*, abundant Creeping Buttercup *Ranunculus repens*, White Clover *Trifolium repens*, Common Sorrel *Rumex acetosa*, Ribwort Plantain *Plantago minor*, Red Clover *Trifolium pratense* and Common Mouse-ear *Cerastium fontanum*.

## **4.3 Plantation woodland**

4.3.1 On the northern margin of the site is a block of semi-mature tree planting dominated by Ash with Sweet Chestnut *Castanea sativa*, Pedunculate Oak *Quercus robur*, Common Lime *Tilia × europaea*, Silver Birch *Betula pendula* and Rowan *Sorbus aucuparia*. The ground flora comprises grassland dominated by Rough Meadow-grass with docks *Rumex* sp., Creeping Buttercup, Red Campion *Silene dioica*, Hedge Woundwort *Stachys sylvatica* and Wood Avens *Geum urbanum*.

## **4.4 Hedgerows**

4.4.1 The site boundaries and field boundaries within the site generally comprise a mix of intact and defunct native hedgerows most of which are unmanaged or subject to infrequent cutting (2,3,4,6,8,10,11,12).

4.4.2 The majority of hedgerows within the site comprise native relatively species-poor intact hedgerows (2,8,10,12) dominated by Hawthorn *Crataegus monogyna*, Blackthorn *Prunus spinosa* and/ or Holly *Ilex aquifolium*. Other species present in the majority of the hedgerows include Elder *Sambucus nigra* and Ash *Fraxinus excelsior*. Dog Rose *Rosa canina*, Goat Willow *Salix caprea*, White Willow *Salix alba* and Field Maple *Acer campestre* were only recorded occasionally. Ground flora is often dominated by Bracken and Nettle *Urtica dioica*. Other species recorded included Herb Robert *Geranium robertianum*, Red Campion, Honeysuckle *Lonicera periclymenum* and Clustered Dock *Rumex conglomeratus*.

4.4.3 A short section of intact hedgerow dominated by Hazel with occasional Goat Willow and a small number of early-mature Ash trees forms part of the southernmost site boundary (6) with a stretch of Leyland Cypress *Cupressus × leylandii* hedging forming the boundary with the adjacent garden in the south-west of the site. A defunct native hedgerow forms the

eastern boundary of the site (11) abutting residential gardens which is dominated by Hazel with abundant Bramble and occasional Elder and Blackthorn.

4.4.4 A section of native defunct hedgerow along a garden boundary on the southern boundary of the south-eastern field within the site is considered species-rich, containing seven species over its short length (3). These include Hawthorn, Blackthorn, Holly, Ash, Hazel, Elder and Wild Privet *Ligustrum vulgare*.

4.4.5 The field boundary between the south-eastern and south-western paddocks within the site (4) comprises a mature species-poor native hedgerow dominated by Goat Willow occasional Hawthorn, Elder and Dog Rose *Rosa canina*. Some of the Willow trees in the hedgerow appear to be very old specimens of their species although it is understood they are not veteran (Andy, Sherlock, Barrell Tree Care, pers comm.).

#### **4.5 Scrub**

4.5.1 The field boundary between the south-western and northern paddocks (5) comprises a post and rail fence with a small number of scattered mature Hawthorn and Holly shrubs. Stands of dense Bramble scrub and suckering Blackthorn occur along hedgerows on the south-eastern and northern margins of the site (3,9,10).

#### **4.6 Tall ruderals**

4.6.1 Tall ruderal vegetation is frequent on the margins of the grassland (1) and along field boundaries (5,11) including Nettle, Broadleaved Dock *Rumex obtusifolius*, Spear Thistle *Cirsium vulgare* and Broadleaved Willowherb *Epilobium montanum*.

#### **4.7 Ditches**

4.7.1 Two dry ditches occur along the northern and north-eastern boundaries of the site. The northern boundary ditch runs beneath the hedgerow (10) and is approximately 1.5m wide and 1m deep with no distinct ground flora due to heavy shading. The north-eastern boundary ditch (11) has a shallow channel (approximately 0.5m deep and 1.5m wide) and supports grasses and tall ruderal vegetation including Nettle, Bittersweet *Solanum dulcamara*, Hedge Woundwort and Spear Thistle.

#### **4.8 Other habitats**

4.8.1 Other habitats associated with the site include ornamental shrubs which grow into the site from neighbouring gardens. Non-native invasive species were recorded along the site boundaries including a small stand of Japanese Knotweed *Fallopia japonica* on the north-eastern boundary at the end of an abutting garden (11) and Variegated Yellow Archangel *Lamiastrum galeobdolon subsp. argentatum* along a hedgerow base in the south-east of the site (3).

- 4.8.2 There are no scattered mature trees within the site, although a small number of trees including a mature Pedunculate Oak *Quercus robur* occur along the southern site boundaries (6) overhanging from off-site gardens.

## **5 PROTECTED AND NOTABLE SPECIES**

### **5.1 Bats**

#### *Roosting habitat*

- 5.1.1 Trees associated with plantation woodland and the boundaries of the site (6) may have potential to support roosting bats. There are no buildings located within the site, although residential dwellings and outbuildings abutting the eastern and southern site boundaries could support suitable features for roosting bats and site proposals should have regard for the potential for development to result in indirect adverse effects on bat roosts or roosting habitat adjacent to the site.

#### *Foraging and commuting habitat*

- 5.1.2 Although the species-poor semi-improved grassland dominating the site is generally of limited value for foraging and commuting bats in isolation, interfaces with field boundary hedgerows, plantation woodland and scrub in addition to areas of marshy grassland habitat in combination provide moderate quality habitat for foraging bats. Hedgerows, scrub and woodland edges on the margins of the site also provide opportunities for commuting bats.

### **5.2 Hazel Dormouse**

- 5.2.1 The site is dominated by grassland habitats which are unsuitable for Dormice. Potentially suitable Dormouse habitat is however provided by mature hedgerows, scrub and plantation woodland generally associated with field boundaries within and bordering the site. Although these habitats are generally considered suboptimal for Dormice and are unlikely to support Dormice in isolation due to being limited in extent, relatively recently established and/ or low in species-diversity, the network of mature hedgerows, scrub and trees in the area provide potential linkages to larger areas of higher quality habitat in the wider area such as more extensive broadleaved woodland to the east and west. In view of this, it is conceivable that Dormice could be present at the site in low numbers.

### **5.3 Otter**

- 5.3.1 There are no waterbodies within or adjacent to the site which could provide suitable habitats for Otter. It is therefore highly unlikely that Otter are present at the site.

#### **5.4 Water Vole**

5.4.1 There are no waterbodies within or adjacent to the site which could provide suitable habitats for Water Vole. It is therefore highly unlikely that Water Vole are present at the site.

#### **5.5 Badger**

5.5.1 No incidental recordings of Badger setts within or immediately adjacent to the site were made during the extended Phase 1 habitat survey. Hedgerow bases, scrub and plantation woodland habitats within and bordering the site however provide suitable sett building and foraging opportunities for Badger.

#### **5.6 Birds**

5.6.1 The plantation woodland, scrub and hedgerow habitats at the site offer nesting opportunities for a number of bird species and it is likely that the site supports an assemblage of breeding birds typical of garden, woodland edge and farmland habitats. However, due to the limited extent of the site and the abundance of similar habitat in the wider area, it is considered unlikely that the site is of importance for this group in a local context.

#### **5.7 Reptiles**

5.7.1 The site is dominated by intensively grazed grassland habitats which provide very few opportunities for reptiles. Although rough grassland, tall ruderal vegetation and scrub habitats associated with hedgerow and ditch bases and field edges, provide opportunities for common and widespread reptile species these are very limited in extent and it is considered unlikely that the site would support locally important populations of reptiles

#### **5.8 Great Crested Newt**

5.8.1 There are no waterbodies within the site which provide potential breeding habitat for Great Crested Newts. Rough grassland and tall ruderal vegetation associated with hedgerows and ditch bases, in addition to scrub and plantation woodland within the site, do however provide suitable habitat for newts during terrestrial phases. Potentially, the closest pond to the site is located approximately 130m south of the site for which the desk study identified a record of Great Crested Newt pertaining to it. A review of OS maps for the area suggest that the next closest is located approximately 350m north-east of the site. The maximum routine migratory distance for Great Crested Newts from ponds outside the breeding season is 250m (Cresswell and Whitworth, 2004) and in view of the proximity of the Great Crested Newt pond record to the south of the site, it is conceivable that low numbers of Great Crested Newts are present at the site during terrestrial phases.

## 5.9 Invertebrates

5.9.1 Although the site supports a range of broad habitat types that can be of some value to invertebrates including plantation woodland, scrub, semi-improved grassland, marshy grassland and hedgerows, those present at the site are limited in extent, intensively managed and/ or are generally species-poor and are likely to be highly typical of habitats in the surrounding area. Although small numbers of mature hedgerow trees within the site could provide opportunities for specialist invertebrate species, this habitat is limited in extent and it is likely that similar opportunities are abundant in the wider area. In view of this it is considered unlikely that the site is of significant local interest for invertebrates.

## 5.10 Plants

5.10.1 The habitats within the site including semi-improved grassland, marshy grassland, hedgerows, dry ditches, tall ruderal vegetation and plantation woodland are generally species-poor and are likely to be typical of other habitats present in the surrounding area. In view of this, habitats within the site are unlikely to be of notable botanical interest in a local context.

5.10.2 Japanese Knotweed and Variegated Yellow Archangel were recorded within the site during the Phase 1 Habitat Survey. These species are listed as non-native invasive species on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to release, plant or cause to grow in the wild any plant included on this schedule of the Act.

## 6 NATURE CONSERVATION EVALUATION

6.1 The habitats within the site have been assessed with consideration given to the criteria summarised in *Appendix C* of this report (Ratcliffe 1977; CIEEM 2016). A summary of the site habitat evaluation is given in *Table 3* below. Numbers in brackets refer to target notes.

**Table 3:** Site Habitat Evaluation

Value	Habitats Present
<b>International</b>	Dorset Heaths SAC/ Dorset Heathlands SPA and Ramsar site [off-site] Poole Harbour SAC, SPA and Ramsar [off-site]
<b>National</b>	None
<b>Regional</b>	None
<b>County</b>	None
<b>District</b>	None
<b>Local</b>	<b>High:</b> - Mature hedgerow trees (4) <b>Moderate:</b> - None <b>Low:</b> - Native hedgerows/ scrublines and associated dry ditches (2,3,4,5,6,8,10,11,12) - Plantation woodland (4)

Value	Habitats Present
Negligible/ Site	All other habitats recorded.

- 6.2 Although not located within the site itself, the Dorset Heaths SAC and Dorset Heathlands Ramsar lie within 2.1km of the site boundary, Dorset Heathlands SPA lies within 2.6km, and Poole Harbour SPA and Ramsar lie within 3.7km of the site boundary. These are European designated areas and are of **international value** for nature conservation. Due to the proximity of these areas to the site, the potential for impacts on these areas resulting from proposed development at the site will need to be considered.
- 6.3 There are no habitats of International, National, Regional, County or District nature conservation value within or bordering the site.
- 6.4 The ecological features of highest nature conservation value associated with the site are the mature Willow trees associated with the central mature field boundary hedgerow, which are considered of **high local value**. Although these individual trees represent only a small amount of habitat and are understood not to qualify as veteran (Andy, Sherlock, Barrell Tree Care, pers comm.) they provide opportunities for a wide range of species, including specialist deadwood species, and such aged specimens of this species are likely to be infrequent in the local area.
- 6.5 Native hedgerows and scrublines with associated trees (excluding potential veteran trees) and dry ditches occurring on the boundaries of the site and along field boundaries are considered in combination to be of **low local value**. Although these habitats are considered to be of less than local value in isolation due to their limited extent, generally being relatively species-poor and/ or defunct, together they appreciably enhance the ecological interest of the site, provide habitat for a range of species, and also contribute towards the wider network of connective habitats facilitating the movement of wildlife around the site and its surrounds.
- 6.6 Plantation woodland in the north of the site is considered of to be of **low local value**. Although the woodland is relatively species-poor, limited in extent and relatively recently established, it provides habitat for a range of wildlife and complements other habitats within and bordering the site.
- 6.7 The intensively grazed species-poor semi-improved grassland dominating the site and small area of associated species-poor marshy grassland is considered as a whole to be of **negligible value** in a local context due to poor species diversity and lack of species indicative of higher quality grassland habitat and as such are not considered likely to meet criteria for recognition as the Section 41 Habitats of Principal Importance 'Lowland Meadow' or 'Purple Moor Grass and Rush Pasture' in their present condition.

6.8 All other habitats present within the site including tall ruderal vegetation, and Bramble scrub are considered to be of **less than local/ negligible value** for nature conservation in their own right.

## **7 ADDITIONAL DATA REQUIREMENTS**

7.1 It is considered that the level of survey and assessment in this report provides an appropriately robust level of information to allow consideration of the inclusion of the site in the local plan.

7.2 Notwithstanding this, it would be prudent to survey the site in advance of submitting planning application for its development to identify species protected under the 1981 Wildlife and Countryside Act (as amended) and 2010 Conservation of Habitats and Species Regulations (as amended) that have been identified as possibly occurring within the development area, and that could potentially be impacted by development proposals. Where necessary, this would inform mitigation and avoidance strategies to be included as part of the development proposals.

### **European Protected Species:**

Bats: Trees within and on the boundaries of the site were identified as being potentially suitable for use by roosting bats during the Phase 1 habitat survey. It is recommended that surveys of trees with the potential to be affected by the proposed development are carried out in order to assess the likely impact of the development on roosting bats. Initially, this would consist of a Phase 1 Bat Scoping survey to identify potential roost sites and determine the need for any further Phase 2 emergence/ re-entry surveys. Phase 1 Bat Scoping surveys of trees can be undertaken at any time of year, but it should be noted that if Phase 2 emergence/ re-entry surveys are required then these can only be carried out between April and September inclusive and should include visits at the peak of the bat breeding season (mid-May to August inclusive). Development proposals should also consider the potential for adverse effects on bat roosting habitat pertaining to buildings immediately adjacent to the site through implementation of a sensitive lighting strategy (see *Section 8.4.2*) or further bat roost surveys where appropriate.

It is also recommended that the site is subject to a bat activity survey in accordance with the BCT 2016 guidelines to assess the importance of this area for foraging and commuting bats. This would comprise a series of walked nocturnal transects and automated detector surveys undertaken between April and October in accordance with current best practice guidelines (BCT, 2016).

Hazel Dormouse: Areas of plantation woodland, scrub and hedgerows around the site provide suitable habitat for Dormouse and there are linkages with potentially higher quality Dormouse habitat in the wider area. It is therefore recommended that a survey is carried out to determine the status of this species within the site. This would take the form of a nest tube survey carried out between April and November.

Great Crested Newt: Waterbodies that are likely suitable for breeding Great Crested Newts are present within 300m of the site boundary as indicated by records of this species provided for a nearby pond. Although limited in extent, the site provides suitable habitat for Great Crested Newts during terrestrial phases. It would therefore be prudent to carry out a survey to confirm the presence/ likely absence of Great Crested Newts in off-site waterbodies, and if present identify the population size, in order to ascertain whether this species is likely to use the site and any mitigation and licensing requirements. In view of the likely presence of Great Crested Newts in area, this should comprise a suite of four presence/ absence surveys (which can be carried out between mid-March and mid-June inclusive, including at least two visits between mid-April and mid-May) to indicate the presence/ likely absence of Great Crested Newts within the waterbodies. If presence of Great Crested Newts is confirmed then further survey may be required in order to determine the size of the population present.

### **UK Protected Species**

Badgers: Grassland, hedgerow bases, scrub, and plantation woodland within and bordering the site provide potential sett building habitat for Badgers. A Badger survey is therefore recommended to identify any setts within 30m of the site to inform proposals for development. The most suitable time for a Badger survey is between November and March whilst vegetation is low.

7.3 Breeding birds are likely to use the site but it is considered unlikely that locally significant populations are present. Therefore further survey for this group is not proposed. Nature conservation legislation relating to birds would however still apply, and measures to ensure compliance are set out in *Section 8* below.

7.4 Reptiles: The site is dominated by intensively grazed grassland habitats with a short sward which are unsuitable for reptiles. Areas of habitat suitable for common and widespread species of reptile, in the form of rough grassland along hedgerow bases, tall ruderal vegetation, scrub and woodland habitats, are very limited in extent and are generally restricted to the boundaries of the site. In view of this, no further survey of these groups is proposed. Development of the site should however employ measures to ensure that no

reptiles are killed or injured during works and that suitable opportunities are maintained at the site for reptiles following development. This is discussed further in *Section 8* below.

7.5 The grassland, hedgerow, scrub and woodland habitats within the site are generally low in botanical diversity, are limited in extent and similar habitat is likely to be abundant in the surrounding area. Although mature trees can support specialist invertebrate species, those present within the site provide limited deadwood habitats or other veteran features and it is expected that similar opportunities for invertebrates are widespread in the surrounding area. It is therefore considered unlikely that the site supports a notable assemblage of invertebrates or plant species and no further survey for these groups is recommended at this time. Notwithstanding this, recommended measures to maintain opportunities for invertebrates through sympathetic retention and enhancement of suitable habitats within the site following development are provided in *Section 8* below.

7.6 Measures to ensure compliance with nature conservation legislation with regard to common and widespread protected species, and to maintain the ecological interest of the site during the construction and operational phases of the proposed development, are given in *Section 8* below.

7.7 It is recommended that the scope of survey work to support a planning application as outlined above is agreed with the Local Planning Authority and/ or Natural England at an early stage. The 2006 NERC Act, Natural England Standing Advice and the National Planning Policy Framework (NPPF, 2012) requires that ecology is a material consideration when making planning decisions and that any decision should be based on up-to-date information about the environmental characteristics of the site and the zone of influence of development proposals. It is therefore strongly recommended that any necessary additional data requirements are fulfilled at the application stage in order to avoid possible refusal due to a lack of survey data.

## **8 CONCLUSION AND RECOMMENDATIONS**

8.1 This section provides a review of the possible implications of proposed development on features of ecological interest and outlines recommended measures for the avoidance and mitigation of potential effects. In addition, opportunities are identified by which development of the site can enhance its current value for species of conservation concern in accordance with planning policy and the 2006 NERC Act.

### **8.2 Designated Sites**

8.2.1 The site is located within 5km of a number of internationally designated sites including Dorset Heathlands SPA (2.6km from the site boundary), Dorset Heaths SAC (2.1km), Poole Harbour SPA (3.7km) and Poole Harbour Ramsar (3.7km). SPAs and SACs are

designated under the EC Habitats Directive 1992 (Council Directive 92/43/EEC) transposed into UK law by the Conservation of Habitats and Species Regulations 2010 (as amended). This requires decision-making authorities to consider the potential effects of proposed development in the vicinity of an SPA or SAC both alone and in combination with other plans or projects.

- 8.2.2 Any development proposals within the site will therefore need to consider whether there is a risk of any likely significant effect on the integrity of the features for which the SPAs and SACs are designated and, where potential for a likely significant effect is identified, include adequate avoidance and mitigation measures to ensure that no adverse effect on the integrity of the designated features will arise.

*Dorset Heathlands SPA/ Dorset Heaths SAC*

- 8.2.3 The *Dorset Heathlands Planning Framework 2015-2020 Supplementary Planning Document (SPD)* (January 2016) identifies types of development that might affect designated features associated with the Dorset Heathlands SPA and Dorset Heaths SAC and the required approach to mitigation.

- 8.2.4 The SPD states that any net increase in residential development within a 400m-5km radius of the Dorset Heathlands SPA/ Dorset Heaths SAC has, in the absence of mitigation and avoidance measures, the potential to result in adverse effects as a result of increased recreational pressure. Although the proposed development is extremely unlikely to result in significant impacts on the integrity of the SPA or SAC in isolation, in accordance with the SPD guidance any net gain in residential development within the site will need to be accompanied by proportionate provisions towards Heathland Infrastructure Projects (HIPs) to deflect a potential increase in recreational pressure on the SPA/ SAC which might otherwise arise in combination with other plans or projects. For developments of less than 50 units this can be achieved through provision of a bespoke Suitable Alternative Natural Greenspace (SANG) in accordance with Natural England design guidance or providing a contribution towards a suitably located strategic SANG in order to provide an alternative focus for informal recreation outside of the SPA/SAC. An example of SANG provision which could deflect a potential increase in recreational use of the SPA/ SAC resulting from development of the site is a proposed SANG off Flowers Drove, Lytchett Matravers, which is located approximately 230m north-east of the site and is accessible along Flowers Drove on the western boundary of the site. Guidance for the delivery of SANGs is provided in Appendix 5 of the Purbeck Local Plan and Natural England have expressed support for the use of the proposed SANG off Flowers Drove to mitigate the effects of development of the Flowers Drove and Sunnyside Farm site on the SPA/ SAC as set out in Natural England's letter of 5/02/2015.

8.2.5 In addition to provision of SANG mitigation, Purbeck District Council would require payment of SANG tariffs proportionate to the scale of the development towards the Strategic Access, Management and Monitoring of the SPA/SAC. These payments are used for management of visitors to the designated area and monitoring the efficacy of mitigation.

*Poole Harbour SPA/ Ramsar*

8.2.6 The Habitat Regulations Assessment of the Purbeck Core Strategy (Liley and Tyldesley, 2011) identified increases in recreational pressure and nitrogen input as potential factors by which new development could adversely impact on the integrity of the Poole Harbour SPA/ Ramsar. It is expected that a potential increase in recreational use of the SPA by residents of new development at the site can be mitigated through the provision of SANG mitigation as described above, in addition to access management measures being delivered by development in the immediate vicinity of the SPA/ Ramsar.

8.2.7 The Nitrogen Reduction in Poole Harbour SPD (PDC et al., 2017) sets out ways in which new residential development can mitigate any resulting increase in nitrogen input into the SPA/ Ramsar. Development at Lytchett Matravers would use Sewage Treatment Works (STW) at Lytchett Minster, which falls within the catchment of Poole Harbour. Although Wessex Water (who manage the STW) are legally obliged to remove 75% of the nitrogen from waste water, the remaining 25% could result in a higher discharge of nitrogen into Poole Harbour in the absence of mitigation.

8.2.8 The majority of nitrogen input into Poole Harbour results from agricultural input and it is expected that removal of land within the site from agricultural use would at least partially offset any increase in nitrogen discharge from STWs. The site comprises managed grassland and is used for livestock grazing. This would be expected to result in nutrient runoff and filtration from both animal manure and fertilisers added to the grassland into Poole Harbour, however exact levels of input of nitrogen on the land are unknown.

8.2.9 Mitigation can also be achieved through offsetting any increase in nitrogen input from the proposed development by removing off-site land from agricultural use or changing to a low input use (e.g. through provision of SANGs).

8.2.10 Using the example calculations for a settlement extension provided in the Nitrogen Reduction in Poole Harbour SPD, a new development of 30 houses changing 1.86ha of land from agricultural to urban use would require 0.8ha of off-site land changing from agricultural use to low input use (e.g. SANGs) to offset the resulting increase in nitrogen input from STWs.

8.2.11 Where replacement of farmland with development and/ or offsetting by changing local land use is not possible it will be necessary to mitigate through provision of financial contributions towards the foul water infrastructure, such as improvements to SWTs or alternative technologies (e.g. wetland buffers) in the wider catchment, in order to ensure that the proposed development is nitrogen neutral. This could be delivered through Community Infrastructure Levy (CIL) payment or through Section 106 agreement to Purbeck District Council.

8.2.12 In view of the above, it is considered realistic that the proposed development can be expected to achieve nitrogen neutrality with respect to the Poole Harbour SPA and Ramsar.

*General*

8.2.13 Following implementation of these measures, it is considered that the proposed development would not result in any risk of likely significant effects on the SPAs, SACs, Ramsars or component SSSIs, either alone or in combination with other plans or projects.

8.2.14 No other statutory or non-statutory sites would be expected to be adversely affected by the emerging development proposals in the absence of mitigation or avoidance measures, either alone or in combination with other plans or projects. This is due to a combination of the nature and scale of the proposed development, associated SANG provision, its distance from and location relative to the off-site designated areas and the limited ecological connectivity of the site with these areas.

**8.3 Habitats**

8.3.1 Current knowledge suggests that there are no habitats of International, National, Regional, County or District conservation value within or adjacent to the site.

8.3.2 The ecological features of highest value within the site are the mature Willow trees within the central field boundary hedgerow. Although it is understood they are not veteran trees<sup>1</sup> (Andy, Sherlock, Barrell Tree Care, pers comm.), some appear to be very old specimens of their species and are considered to be of high local value. It is recommended that these trees are retained within development proposals for the site, and in accordance with the advice of a suitably qualified arboriculturalist and ecologist, the integrity of retained trees

---

<sup>1</sup> Veteran trees are noted for their aesthetic appeal and biological importance providing conditions suitable for a wide range of plants and animals, many of which are specialist and confined to veteran trees. Natural England and Forestry Commission Standing Advice<sup>1</sup> identifies veteran trees as being 'irreplaceable'. The importance of veteran trees is recognised in Paragraph 118 (5<sup>th</sup> bullet) of the 2012 National Planning Policy Framework which states that "Planning permission should be refused for development resulting in loss or deterioration of irreplaceable habitats, including ... aged or veteran trees ..., unless the need for, and benefits of, the development in that location clearly outweigh the loss...".

should be protected through implementation of the following measures during the construction and/ or operational phases of the proposed development:

- Protection in accordance with 'BS5837 Trees in Relation to Construction'. This would include protection of trees and tree rooting zones through appropriate development design (e.g. inclusion in areas of open space) and avoidance of the effects of soil compaction, dust and pollution (see below).
- Maintenance of the quality, quantity and constancy of water supporting the trees.
- Maintenance of associated habitat linkages.

8.3.3 Native hedgerows and scrub with associated trees (excluding the aged willows discussed above) and dry ditches along the site and field boundaries are considered in combination to be of low local value as they contribute towards the wider network of connective habitats facilitating the movement of wildlife around the site and its surrounds. Development proposals should seek to maintain opportunities for wildlife and existing habitat connectivity provided by these habitats through avoiding, wherever possible, direct loss of these habitats and potential indirect effects of artificial lightspill (see *Section 8.4.2* below).

8.3.4 Other habitats of low local value within the site include the semi-mature plantation woodland on the northern margin of the site. Although the woodland is relatively species-poor, limited in extent and recently established, it provides habitat for a range of wildlife and complement other habitats within and bordering the site.

8.3.5 Where impacts on habitats of local interest are unavoidable, where possible, measures should be taken to minimise effects, such as by prioritising loss of areas of habitat of lowest interest, reducing effects of fragmentation, and/ or re-creating these habitats or similar opportunities elsewhere within the site, affording suitable buffers where required. Where it is not possible to retain the habitats of local value listed above, consideration should be given towards establishment of new areas of habitat of high wildlife value or enhancement of retained habitats within informal open space at the site, such as through the development's surface water drainage strategy, and/ or through off-site provision (e.g. in association with SANGs).

8.3.6 Retained hedgerows, scrub and trees within and adjacent to the site should be protected during the course of development, with works carried out in accordance with 'BS5837 Trees in relation to construction' unless otherwise agreed with a suitably qualified arboriculturalist. Where possible, habitat buffers should be maintained adjacent to retained plantation woodland, scrub and hedgerows incorporating semi-natural habitats such as rough and meadow grassland, scrub and wetland. These habitats could be used to create 'ecotone' habitat along edges of hedgerows, scrub and woodland (a gradation from

grassland to scrub to woodland/ trees) which is noted for its ability to support a high diversity of species.

8.3.7 Particular regard should be given to the maintenance of the habitat connectivity currently provided by the network of plantation woodland, scrub and hedgerows around the site. Where retention of existing habitat is not possible this could be achieved through the enhancement of retained boundary vegetation through complimentary planting and/ or planting of new species-rich hedgerows, scrub belts and treelines.

8.3.8 Development at the site would provide opportunity for the enhancement of retained habitats and creation of new habitats of high value to wildlife such as meadow and marshy grassland, wetland, and native species-rich scrub, hedgerow and tree planting. Measures for habitat creation and enhancement within the site are provided in *Section 8.5* below.

## **8.4 Species**

### *Bats*

8.4.1 It is recommended that further surveys are carried out at the site in support of any forthcoming planning application to determine its importance for roosting, foraging and commuting bats (see *Section 7*).

8.4.2 Where possible, native hedgerows, scrub and plantation woodland should be retained within the development scheme or otherwise replaced at appropriate locations within the site. It is also recommended that the lighting scheme for the site be designed to minimise light spill onto any new and retained semi-natural areas to maximise the value of existing and newly created foraging and commuting habitats and maintain opportunities for bats and other nocturnal wildlife during the operational phases of the development. Consideration should be given to the use of directional, hooded and low-level lighting where appropriate, together with use of narrow spectrum and/or low UV bulbs, whilst maintaining a minimum level required for safety.

8.4.3 Additional measures to maintain and potentially enhance foraging, commuting and roosting opportunities for bats within the site in line with planning policy and the 2006 NERC Act are given in *Section 8.5* below.

### *Badgers*

8.4.4 In view of the potential for Badgers setts to occur on or within 30m of the site, it is recommended that a Badger survey is carried out in support of any forthcoming planning application (see *Section 7*).

8.4.5 Although no signs of Badger were identified incidentally during the extended Phase 1 habitat survey, in view of the potential for Badgers to use the site, it is recommended that development of the site seeks to maintain opportunities for foraging Badgers through retention or creation of woodland, hedgerows, scrub and rough grassland habitats within the scheme and use of fruit and nut producing species within landscape planting. In addition, it is recommended that construction activities take into account the potential presence of this species. Any steep sided holes left open overnight during the course of construction works should be equipped with a mammal ladder (a reinforced plywood board >60cm wide set at an angle of no greater than 30° to the base of the pit) to prevent entrapment.

#### *Birds*

8.4.6 Although breeding birds are likely to use the site, in view of its limited extent and the habitats present it is considered unlikely that locally significant populations are present and therefore further survey for this group is not proposed.

8.4.7 Notwithstanding the above, all wild birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended) and it is therefore recommended that any removal of trees, hedgerows and scrub or rough grassland should avoid the bird breeding season (generally taken as March to September inclusive). In the event that vegetation clearance is required during this period then a search for nesting birds should be undertaken by a suitably qualified ecologist immediately prior to vegetation removal. In the event that breeding birds are discovered, sufficient habitat will need to be retained to ensure birds are not disturbed until nesting activity has been completed and the nest vacated.

#### *Reptiles*

8.4.8 The site is unlikely to support locally significant numbers of reptiles and limited areas of suitable reptile habitat are generally restricted to hedgerow bases on the site boundaries, the majority of which are likely to be retained. No further survey with respect to reptiles at the site is therefore recommended. Notwithstanding this, any development works affecting the limited areas of potential reptile habitat located within the site should give due regard to the legislation protecting common and widespread reptile species i.e. protection against injury and killing. This could be achieved through the displacement of any reptiles present into areas of retained habitat within and adjacent to the site prior to construction works commencing through the following approach:

- Progressive removal of suitable low-lying vegetation, including long grass, tall ruderal vegetation and scrub, using hand-held tools. The final stages of clearance to ground level should take place during suitable climatic conditions at a time of year when reptiles are active (generally April to September inclusive).

- Dismantling of any potential hibernacula or refugia by hand, such as compost heaps and log piles.
- Where appropriate, ground level clearance work should be carried out under the supervision of a suitably qualified ecologist who would relocate any reptiles encountered to an area of suitable retained habitat within the site.
- Following the clearance of vegetation, the vegetation should be maintained at ground level to prevent recolonisation prior to works commencing.

8.4.9 Development proposals for the site should also seek to maintain and enhance opportunities for reptiles at the site through the appropriate retention and enhancement of suitable reptile habitat and provision of new high quality habitat within areas of informal open space within the site such as rough grassland, hedgerows, scrub and wetland features (see *Section 8.5* below).

#### *Great Crested Newts*

8.4.10 The site supports suitable terrestrial habitat for Great Crested Newts and there are waterbodies within 300m of the site boundary with records of breeding Great Crested Newts pertaining to them. It is therefore recommended that a survey is conducted in support of any forthcoming planning application to determine whether this species could be using the site during terrestrial phases (see *Section 7*) and inform any mitigation and licensing measures to ensure compliance with nature conservation legislation. In any event, it is recommended that opportunities for this species and other amphibians are included within any development scheme for the site. This could include the creation of new waterbodies, such as ponds and swales, in association with the surface water drainage scheme for the proposed development or as standalone features.

#### *Invertebrates*

8.4.11 The proposed development area is dominated by relatively species-poor habitats and similar opportunities for invertebrates are likely to be abundant in the local area. It is therefore considered unlikely that the site supports a notable assemblage of invertebrates in a local context and, in view of this, no further survey for invertebrates is proposed. Development proposals should however seek to maintain and enhance opportunities for invertebrates at the site through sympathetic retention, creation and enhancement of habitats within areas of proposed informal open space. Possible measures by which this can be achieved are given in *Section 8.5* below.

#### *Plants*

8.4.12 Two species of plant recorded during the Phase 1 habitat survey are listed as non-native invasive species on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended); Japanese Knotweed and Variegated Yellow Archangel. It is an offence to release, plant or cause to grow in the wild any plant included on this schedule of the Act. It is

recommended that a scheme of management is implemented to control these species at the site to prevent their spread.

## **8.5 Enhancement opportunities**

8.5.1 In addition to the recommendations given to maintain the habitat resource of the site and prevent conflict with any protected species that might be present, development proposals should seek to provide new and enhanced opportunities for wildlife in accordance with national and local planning policy and guidance (NPPF, 2012; ODPM, 2005) and the 2006 NERC Act. A selection of measures is given below which could be included within any development scheme for the site in order to increase its long-term nature conservation interest and provide enhanced habitat for protected and notable species:

- Enhancement of grassland habitats present, including:
  - Inclusion of areas of species-rich meadow and rough grassland within the landscape scheme for the proposed development;
  - Enhancement of retained species-poor grassland and marshy grassland habitats within areas of proposed open space through improved management, including appropriate mowing regimes and avoidance of agricultural enrichment; and
  - Maintenance of rough tussocky grassland margins in association with plantation woodland, scrub and wetland margins and hedgerow bases.
- Enhancement of woodland/ scattered tree habitats present, including:
  - Establishment of 'ecotones' along woodland edges where appropriate. These comprise a gradation of woodland to scrub to rough/ meadow grassland which are noted for their high biodiversity and the complementary habitat that they provide for woodland species; and
  - Instatement of management including coppicing where appropriate.
- Enhancement of hedgerows and connective habitats, including:
  - Enhancement of existing hedgerows through sensitive management, infilling of gaps and establishment of adjacent complimentary habitats including meadow and rough grassland, scrub and tree planting, to enhance connective habitats across the site;
  - Re-instatement of traditional management techniques such as laying, pollarding and coppicing of retained mature hedgerow shrubs and trees (where appropriate) to improve their longevity and enhance structural diversity; and
  - Strengthen linear habitat corridors within and across the site through use of native species-rich hedgerow, scrub and tree planting as boundary features and to delineate property/ area curtilages.
- Other general enhancement and management measures:
  - Creation of new sympathetically designed wetland habitats such as ponds, ditches, swales and wet grasslands, either as standalone features or as part of the site surface water drainage strategy;

- Control of invasive species;
- Maintenance and enhancement of standing and fallen deadwood habitats where safe to do so;
- Use of nectar/pollen-rich and fruit and nut-producing species within formal landscaping schemes to benefit species including birds, invertebrates, bats and foraging Badgers;
- Provision of bird boxes and/ or bat boxes on new buildings and existing trees.
- Provision of log and brush piles along hedgerows, pond margins and within semi-natural areas of planting to provide habitat for invertebrates, amphibians and reptiles; and
- Prioritise use of native species typical of the local area in landscape planting where appropriate to do so. Where possible these should be sourced from stock of local provenance.

## **8.6 Conclusion**

8.6.1 Subject to implementation of the recommended measures to avoid potential cumulative impacts arising as a result of increased recreational pressure and nutrient input on nearby SACs, SPAs and Ramsar sites, and to maintain opportunities for wildlife associated with the site, the proposed development is unlikely to result in any significant adverse effect on the ecology of the local area. Subject to implementation of the measures described in *Section 8.5* above, development proposals for the site could in fact provide opportunities to enhance the site for a variety of species. This would be in keeping with planning policy and guidance, and Section 40 of the 2006 NERC Act.

8.6.2 It is therefore concluded that, beyond the normal requirements to avoid impacts on protected species and off-site designated areas, there appear to be no overriding nature conservation constraints that would preclude development at the site.

## **9 REFERENCES**

Bat Conservation Trust (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd Edition*. Bat Conservation Trust, London.

Bright, P. Morris, P. & Mitchell-Jones, T. (1996) *The Dormouse Conservation Handbook*. English Nature, Peterborough.

CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

Cresswell, W. and Whitworth, R. (2004) *An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*. English Nature Research Report 576. English Nature, Peterborough.

DBP (2003) *Dorset Biodiversity Strategy*. Dorset Biodiversity Partnership, Forston.

- Dorset County Council et al. (2016) *The Dorset Heathlands Planning Framework Supplementary Planning Document 2015 – 2020 (SPD)*.
- Department for Communities and Local Government (2012) *National Planning Policy Framework (NPPF)*.
- Froglife (1999) *Reptile survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.
- Harris S, Cresswell P and Jefferies D (1991) *Surveying Badgers*. The Mammal Society, Bristol.
- JNCC (2010) *Handbook for Phase 1 Habitat survey: a technique for environmental audit*. Joint Nature Conservation Committee, Peterborough.
- Joint Nature Conservation Committee (2015) The UK Biodiversity Action Plan (UK BAP) 1992-2012. Available from: <http://jncc.defra.gov.uk/page-5155>
- Liley, D. & Tyldesley, D. (2011) *Habitats Regulations Assessment of Purbeck Core Strategy, Proposed Changes to Pre-Submission*. Footprint Ecology / David Tyldesley Associates / Purbeck District Council.
- MAGIC (2017) *Interactive Map*. Available from: <http://magic.defra.gov.uk/website/magic/> [Accessed June 2017].
- ODPM (2005) *Government Circular: Biodiversity and Geological Conservation – Statutory obligations and their impact within the planning system*. Office of the Deputy Prime Minister, August 2005.
- Purbeck District Council et al. (2017) *Nitrogen Reduction in Poole Harbour Supplementary Planning Document (SPD)*.
- Ratcliffe, D.A. (ed.) (1977) *A Nature Conservation Review, Vols. 1 and 2*. Cambridge University Press, Cambridge.
- Royal Society for the Protection of Birds (2015) *Birds of Conservation Concern 4*. RSPB, Bedfordshire.
- Stace, C. (2010) *New Flora of the British Isles (Third edition)*. Cambridge University Press, Cambridge.
- Spellerberg, I.F. (1992) *Evaluation and Assessment for Conservation*. Chapman & Hall, London.
- Stroh, P.A., Leach, S.J., August, T.A., Walker, K.J., Pearman, D.A., Rumsey, F.J., Harrower, C.A., Fay, M.F., Martin, J.P., Pankhurst, T., Preston, C.D. & Taylor, I. 2014. A Vascular Plant Red List for England. Botanical Society of Britain and Ireland, Bristol.
- Usher, M.B. (ed.) (1986) *Wildlife Conservation Evaluation*. Chapman & Hall, London.

## HDA Document Control and Quality Assurance Record

Project Title: Land at Flowers Drove and Sunnyside Farm, Lytchett Matravers

Project Reference: 813.13

Document Title: Ecological Appraisal

Commissioning Party: Wyatt Homes

Issue	Description	Date of Issue	Signed
1	Ecological Appraisal	July 2017	
2	Revision A	November 2017	AM
3			

	Personnel	Position
Author	Alex Leishman GradCIEEM	Ecologist
Approved for issue	Adrian Meurer MCIEEM	Director

© Hankinson Duckett Associates. All rights reserved

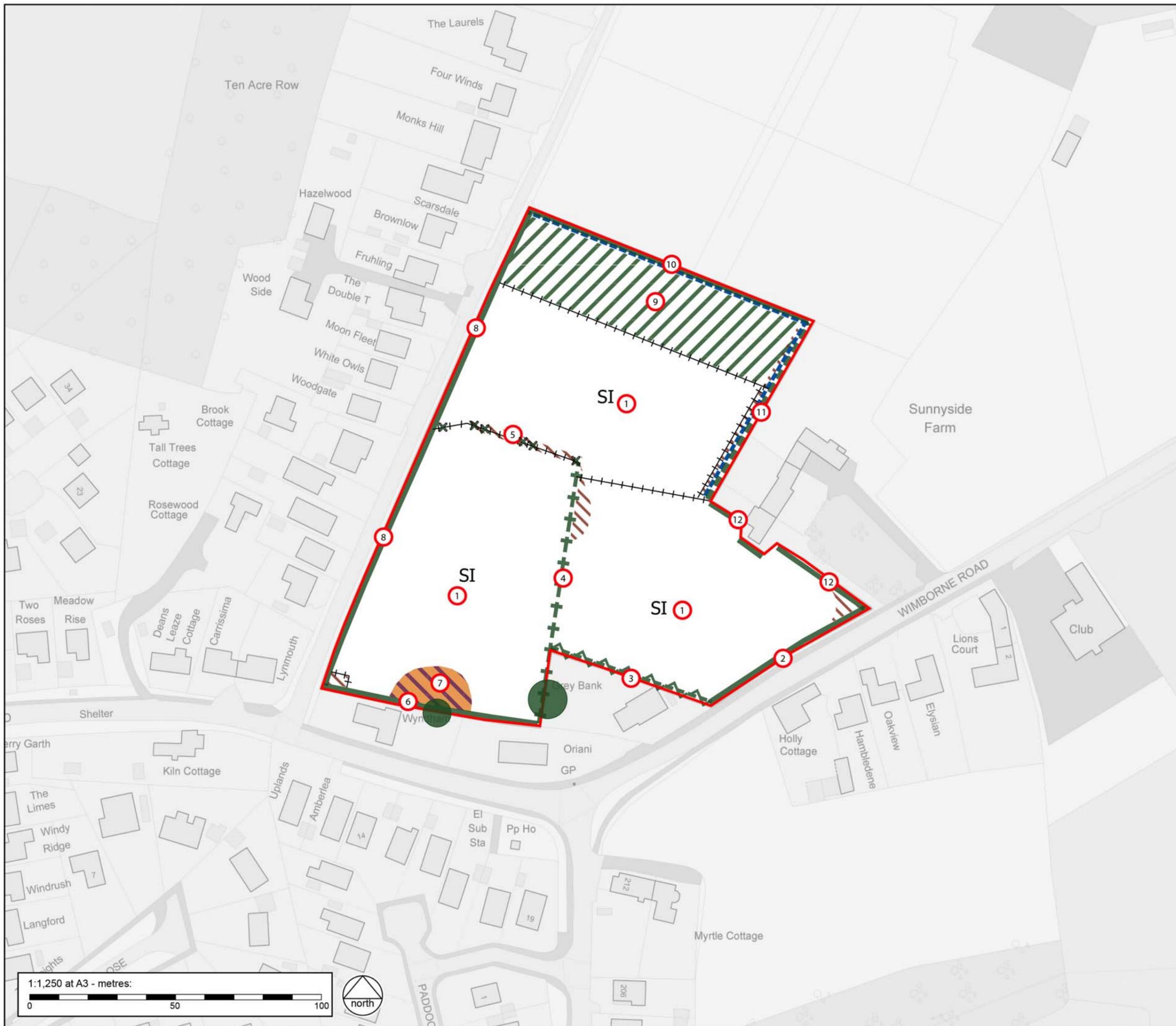
No part of this report may be copied or reproduced by any means without prior written permission from Hankinson Duckett Associates. If you have received this report in error, please destroy all copies in your possession or control and notify Hankinson Duckett Associates.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by Hankinson Duckett Associates no other party may use, make use of or rely on the contents of the report. No liability is accepted by Hankinson Duckett Associates for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of Hankinson Duckett Associates using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy. It should be noted and it is expressly stated that no independent verification of any of the documents or information supplied to Hankinson Duckett Associates has been made.

**APPENDIX A**  
**Desk Study Results**

**APPENDIX B**  
**Phase 1 Habitat Survey Plan and Target Notes**



**KEY**

-  Site boundary
-  Broadleaved plantation woodland
-  Scattered trees
-  Defunct species-rich hedgerow
-  Intact species-poor hedgerow
-  Defunct species-poor hedgerow
-  Defunct species-poor hedgerow with trees
-  Dense native scrub
-  Scattered scrub
-  Tall ruderals
-  Species-poor semi-improved grassland
-  Marshy grassland/ rush pasture
-  Fence
-  Dry ditch
-  Target note

CLIENT:  
Wyatt Homes

PROJECT:  
Lytchett Matravers - Land at Flowers Drove and Sunnyside Farm

TITLE:  
Phase 1 Habitat Survey Plan

SCALE AT A3:                      DATE:  
See scale bar                      July 2017

813.13 / 03

Based on Ordnance Survey mapping with permission of Her Majesty's Stationery Office Licence no. AR187372

© hankinson duckett associates

The Stables, Howbery Park, Benson Lane, Wallingford, OX10 8BA  
t 01491 838175 e consult@hda-enviro.co.uk w www.hda-enviro.co.uk

Landscape Architecture  
Masterplanning  
Ecology



## Target Notes

- 1. Grazed grassland:** The site is split into three paddocks comprising intensively grazed species-poor semi-improved grassland with a very similar sward composition throughout. The grassland is dominated by Yorkshire Fog *Holcus lanatus* and Rough Meadow-grass *Poa trivialis* with Perennial Ryegrass *Lolium perenne*, abundant Creeping Buttercup *Ranunculus repens*, White Clover *Trifolium repens*, Common Sorrel *Rumex acetosa*, Ribwort Plantain *Plantago minor*, Red Clover *Trifolium pratense* and Common Mouse-ear *Cerastium fontanum*. Tall ruderal vegetation, including Common Nettle *Urtica dioica* and Broadleaved Dock *Rumex obtusifolius*, is frequent on the margins of the grassland which has been enriched with horse manure.
- 2. Intact hedgerow:** A species-poor intact native hedgerow forming the south-eastern boundary of the site abutting Wimborne Road. The hedgerow is dominated by Hawthorn *Crataegus monogyna* with Ash *Fraxinus excelsior* and an early-mature Wild Cherry *Prunus avium* tree at the western end. Bramble was also abundant in the hedgerow and the ground flora at the hedgerow base is dominated by Bracken *Pteridium aquilinum* and Nettle.
- 3. Defunct hedgerow:** An outgrown defunct hedgerow along the southern boundary of the south-eastern paddock. The hedgerow is considered species-rich, comprising only a short length of hedgerow with Hawthorn, Holly *Ilex aquifolium*, Blackthorn *Prunus spinosa*, Wild Privet *Ligustrum vulgare*, Hazel *Corylus avellana*, Elder *Sambucus nigra* and young Ash trees. Ground flora at the base of the hedgerow was generally dominated by Bramble, Nettle and Broadleaved Dock. Other species recorded included Herb Robert *Geranium robertianum*, Red Campion *Silene dioica*, Honeysuckle *Lonicera periclymenum* and Clustered Dock *Rumex conglomeratus*. Variegated Yellow Archangel *Lamiastrum galeobdolon* subsp. *argentatum* was also recorded.
- 4. Mature defunct hedgerow:** A defunct native species-poor hedgerow dominated by mature Goat Willow *Salix caprea* with occasional Hawthorn, Elder and Dog Rose *Rosa canina*. The hedgerow is unmanaged, has a dense upper canopy but is intensively grazed to the base with large gaps between hedging plants. Some of the Willow specimens appear very mature and may qualify as veteran trees.
- 5. Scattered shrubs/ fenceline:** A field boundary comprising a post and rail fence with a small number of scattered mature Hawthorn and Holly shrubs. Tall ruderal vegetation is abundant along the boundary.
- 6. Garden boundaries:** Site boundary abutting gardens to the south-west, comprising sections of native mature hedgerow and Leyland Cypress *Cupressus × leylandii* hedging near the western corner. This included sections of Hazel dominated hedgerow with a small number of early-mature Ash trees. Goat Willow, Dog Rose and Bramble were also present.
- 7. Marshy grassland:** A damp low-lying area of grassland in the south-west of the site comprising improved grassland (as TN1) with abundant Compact Rush *Juncus conglomeratus*.
- 8. Native hedgerow:** A relatively species-poor native hedgerow along the western boundary of the site abutting Flowers Drove which is generally intact but is quite gappy at the southern end with abundant Bramble and Bracken. The hedgerow comprises a mix of Holly, Ash, Hazel, Hawthorn, Dog Rose and White Willow *Salix alba*. The ground flora is dominated by Bracken and Nettle. Honeysuckle and Black Bryony *Dioscorea communis* are also present.
- 9. Plantation woodland:** A block of semi-mature tree planting on the northern margin of the site dominated by Ash with Sweet Chestnut *Castanea sativa*, Pedunculate Oak *Quercus robur*, Common Lime *Tilia × europaea*, Silver Birch *Betula pendula* and Rowan *Sorbus aucuparia*. The ground flora comprises grassland dominated by Rough Meadow-grass with docks *Rumex* sp., Creeping Buttercup, Red Campion, Hedge Woundwort *Stachys sylvatica* and Wood Avens *Geum urbanum* also present.

- 10. Northern boundary:** A relatively species-poor intact hedgerow on the northern boundary of the site dominated by Blackthorn with Hawthorn, Hazel, Elder and Goat Willow. Beneath the hedgerow is a dry ditch approximately 1.5m wide and 1m deep. Ground flora includes Bracken, Nettle, Bramble and Broadleaved Willowherb *Epilobium montanum*.
- 11. Hedgerow and ditch:** Defunct species-poor native hedgerow forming the eastern boundary of the northern field with a shallow dry ditch approximately 0.5m deep and 1.5m wide. The hedgerow is dominated by Hazel with abundant Bramble and occasional Elder and Blackthorn. The base of the ditch comprises tall ruderal vegetation and grasses including Nettle, Bittersweet *Solanum dulcamara*, Hedge Woundwort and Spear Thistle *Cirsium vulgare*. A small stand of Japanese Knotweed *Fallopia japonica* was also recorded on the site boundary adjacent to an off-site garden.
- 12. Hedgerows:** Sections of outgrown species-poor intact hedgerow along the northern boundary of the south-eastern field abutting off-site gardens. The hedgerows are dominated by Hawthorn with Field Maple *Acer campestre*, Blackthorn and Bramble.

**APPENDIX C**  
**Evaluation Criteria**

### **Criteria used for the evaluation of ecological receptors (based on Ratcliffe, 1977; CIEEM 2016)**

Assigning value is relatively straightforward in the case of designated sites, and undesignated sites meeting designation criteria. However, in most cases evaluation of ecological resources is not straightforward and requires a degree of knowledge, experience and professional judgement (Usher, 1986; Spellerberg, 1992). Evaluation of an ecological receptor was based on a number of criteria (Ratcliffe, 1977; CIEEM 2016) summarised below:

- Site designations; SPA, SAC, Ramsar, SSSI, NNR, LNR, SINC or equivalent.
- Site designation criteria; e.g. Guidelines for the Selection of Biological SSSIs, JNCC, 1989.
- Conservation status; whether a habitat or species is rare, declining or threatened at a given geographic scale.
- Geographic location; the value of a habitat or species may change depending on whether it is being assessed in the south of England or the north of Scotland.
- Distribution; habitats or species on the edge of their distribution, particularly where that distribution is changing as a result of global trends and climate change and endemic species or locally distinct sub-populations of a species are more valuable;
- Rarity; the presence of habitats, species, subspecies or varieties that are rare or uncommon at a given geographic scale.
- Diversity; of habitats, or species, particularly of vascular plants. Species-rich assemblages of plants or animals are likely to be important in terms of biodiversity;
- Naturalness; habitats least affected by human disturbance are normally of relatively higher importance.
- Size; larger areas are generally more valuable than lots of small ones. Notably large populations of animals or concentrations of animals considered uncommon or threatened in a wider context may be important.
- Fragility; sensitivity to, and probability of, human impact.
- Typicalness; a good example of the type, particularly plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities.
- Potential value (if restored to favourable conservation status).
- Secondary or supporting value; value of a receptor in supporting the integrity or conservation status of another valued receptor.
- Ability to be recreated; the more difficult a habitat is to re-create, were it to be destroyed, the greater the importance usually attached to it.