



LAND EAST OF WAREHAM ROAD, LYTCHELT MATRAVERS

ECOLOGICAL APPRAISAL

Rev A

Prepared for Wyatt Homes

by

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HDA Document Control and Quality Assurance Record

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1 INTRODUCTION

- 1.1 This report describes an Ecological Appraisal of approximately 5.32ha of land east of Wareham Road, Lytchett Matravers, Dorset, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference SY 9443 9431. The study was commissioned by Wyatt Homes in May 2017.
- 1.2 The site is located off Wareham Road on the southern edge of the settlement of Lytchett Matravers. The site is bound to the west by Wareham Road with grassland fields beyond; to the north by grassland fields and residential properties fronting Wareham Road; to the east by an area of woodland and scrub along a stream valley; and to the south by a hedgerow lined track (Glebe Road) and residential properties with farmland beyond.
- 1.3 The site is being promoted for residential development in the local plan including approximately 95 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 8th 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 two hours 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 Heathlands Special Protection Area (SPA)	1.9km south; 2.6km east; 3.1km 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.
Dorset Heaths Special area of Conservation (SAC)	2.1km south; 2.6km east; 3.1km south-west	Forms part of the Dorset Heathlands SPA. 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.

Designated area	Distance and direction from site	Description and reason for designation
Dorset Heathlands Ramsar	1.9km south; 3km east; 3.1km south-west	Forms part of the Dorset Heathlands SPA described above. The Ramsar is designated for the heathland habitats and bird populations that it supports.
Poole Harbour SPA	2km south-east	Coastal estuary designated for the populations of breeding terns and gulls, and wintering and migrating waterbirds that it supports.
Poole Harbour Ramsar	2.1km 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	4.1km south-west	Forms part of Dorset Heathlands SPA and Ramsar. The SAC is designated for its exceptional heathland, sand dune and bog woodland habitats, and population of Southern Damselfly.

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 Holton and Sandford Heaths SSSI, which is located approximately 1.9m south of the site and forms part of Dorset Heathlands SPA and Ramsar/ Dorset Heaths SAC described in *Table 1* above. Holton and Sandford Heaths 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.

3.2.4 Other SSSIs within the vicinity of the site include:

- Poole Harbour SSSI (forming part of the Poole Harbour SPA and Ramsar, which is located approximately 2km 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;
- Upton Heath SSSI (forming part of the Dorset Heaths SAC/ Dorset Heathlands SPA and Ramsar), which is located approximately 2.6km to the 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;
- Corfe Mullen Pastures SSSI (part of which is designated as part of Dorset Heaths SAC and Dorset Heathlands Ramsar), located approximately 2.8km north-east of the site. This SSSI is designated for its unimproved grassland and mire habitats supporting a number of rare plant species;
- 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 3.1km 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;
- East Coppice SSSI, which is located approximately 4.5km to the west. This SSSI is designated for its ancient coppiced woodland habitat which supports a number of rare plants and invertebrates; and

- Ham Common SSSI (forming part of the Dorset Heaths SAC/ Dorset Heathlands SPA), which is located approximately 4.5km south-east of the site. This SSSI is designated for its wet and dry heathland habitats which support significant pollutions of Sand Lizard, 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:

- 1-2km and 2-3km IRZs for Holton and Sandford Heaths SSSI (and associated Dorset Heaths SAC, Dorset Heathlands SPA and Ramsar);
- 1-2km and 2-3km IRZs for Poole Harbour SSSI (and associated Poole Harbour SPA and Ramsar);
- 2-3km IRZ for Upton Heath SSSI and Corfe Mullen Pastures SSSI (and associated Dorset Heaths SAC, Dorset Heathlands SPA and Ramsar);
- 3-4km IRZ for 'Morden Bog and Hyde Heath' SSSI (and associated Dorset Heaths SAC, Dorset Heathlands SPA and Ramsar);
- 3-4km 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);
- 3-5km IRZ for East Coppice SSSI; and
- 4-5km IRZ for Ham Common 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 mitigation or avoidance 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 2.3km 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 3.1km 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 16 Sites of Nature Conservation Importance (SNCIs) were identified by DREC within approximately 2km of the site. The closest of these to the site is Bartom's Lane Meadow SNCI, which is located approximately 550m north-west of the site and is designated for its wet meadow habitat. The next closest is Hill Wood SNCI, which is located approximately 600m east of the site, and is designated for its broadleaved and plantation woodland listed on Natural England's Inventory of Ancient Woodland.

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 Hill Wood SNCI, located approximately 850m east 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 wet woodland, lowland meadow, and purple moor grass and rush pasture.

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:

Wet woodland

'Maintain the extent and quality of existing habitat, through appropriate management.'

'Restore existing wet woodlands that have become degraded.'

'Increase the area of native wet woodland in Dorset, primarily through natural regeneration. Expansion should include networks of riparian woodlands linking existing wet woodlands and other woodland types, where this does not conflict with other biodiversity interests.'

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.'

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.

3.4.2 *Bats*

3.4.2.1 DERC provided 32 records of bats within the desk study area including a number of roost site records. These include records of at least six species (Common Pipistrelle, Soprano Pipistrelle, *Pipistrellus* sp., Serotine, Bechstein's, Whiskered, Brown Long-eared and *Plecotus* sp.). The closest record dates from 1997 and relates to an undetermined bat species, pertaining to a building located along Glebe Road to the immediate south 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. Three of these species have been recorded within 2km of the site, namely Bechstein's, Soprano Pipistrelle and Brown Long-eared bat.

3.4.3 *Water Vole*

3.4.3.1 One record of Water Vole was provided by DERC for the desk study area. This pertains to a group of waterbodies located approximately 1.1km west of the site and dates from 2015.

3.4.3.2 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,

3.4.3.3 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).

3.4.4 *Badgers*

3.4.4.1 Twelve records of Badger were provided for the desk study area. Potentially the closest of these records to the site dates from 2007 and pertains to the 1km grid located approximately 600m north of the site at its nearest point.

3.4.4.2 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.

3.4.5 *Birds*

3.4.5.1 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 22 records of notable birds occurring within the desk study area relating to 16 species.

3.4.5.2 *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 I ¹	WCA 1 ²	NERC 41 ³	BOCC4 (2015) ⁴
Teal	<i>Anas crecca</i>				Orange
Little Egret	<i>Egretta garzetta</i>				Green
Red Kite	<i>Milvus milvus</i>				Green
Woodcock	<i>Scolopax rusticola</i>				Red
Barn Owl	<i>Tyto alba</i>				Green
Tawny Owl	<i>Strix aluco</i>				Orange
Marsh Tit	<i>Poecile palustris</i>				Red
Woodlark	<i>Lullula arborea</i>				Green
House Martin	<i>Delichon urbicum</i>				Orange
Willow Warbler	<i>Phylloscopus trochilus</i>				Orange
Starling	<i>Sturnus vulgaris</i>				Red
Song Thrush	<i>Turdus philomelos</i>				Red
Spotted Flycatcher	<i>Muscicapa striata</i>				Red
Dunnoek	<i>Prunella modularis</i>				Orange
House Sparrow	<i>Passer domesticus</i>				Red
Yellowhammer	<i>Emberiza citrinella</i>				Red

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)

3.4.6 *Reptiles*

3.4.6.1 10 records of reptiles were provided for the desk study area including Common Lizard, Slow-worm and Grass Snake. All of these records were collected during a survey in 2015 of grassland fields off Deans Drove, located between 100m and 200m north-east of the site.

3.4.6.2 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.

3.4.7 *Amphibians*

3.4.7.1 Five records of Great Crested Newt were provided by DERC for the desk study area including three ponds where Great Crested Newts have been recorded. The closest of these records pertains to a pond located within residential development approximately 1.1km north of the site.

3.4.7.2 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 NERC Act (2006).

3.4.7.3 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 NERC Act (2006).

3.4.8 *Invertebrates*

3.4.8.1 Records of 30 notable invertebrate species were provided by DERC for the desk study area. No records of protected invertebrates were provided.

3.4.8.2 Potentially the closest records to the site relate to Silver Washed Fritillary, which pertain to 1km grid squares located approximately 400m east and 600m north of the site at their closest points. 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*.

3.4.9 *Plants*

3.4.9.1 Records of 63 notable plant species were provided for the desk study area. Two records were provided of Lizard Orchid, which is fully protected through its inclusion on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). These records pertain to a road verge located approximately 1.4km south-west of the site. No other 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.

3.4.10 *Other species*

3.4.10.1 Other records of notable species within 2km of the site include a record of Polecat and five 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 or Otter 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 borders the southernmost boundary 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 two grassland fields generally bordered by species-poor native hedgerows with a small number of mature trees. Along the eastern margin of the site is a small stream bordered by areas of marshy grassland and wet woodland. A combination of fences, walls and hedgerows form the boundary between the western field and residential gardens to the south of the site.

4.2 Grassland

- 4.2.1 The site is dominated by two fields dominated by relatively species-poor semi-improved grassland which was unmanaged with a long sward at the time of survey (1,3). It is understood however that the western field is cut for hay and aerial photographs of the eastern field suggest that it has been previously grazed by livestock.
- 4.2.2 The western field abutting Wareham Road (3) is heavily dominated by grasses in particular Yorkshire Fog *Holcus lanatus*. Forb species were generally infrequent in the sward and

included Rough Hawkbit *Leontodon hispidus*, Common Bird's-foot Trefoil *Lotus corniculatus*, Dandelion *Taraxacum* agg., Common Vetch *Vicia sativa*, Hairy Tare *Vicia hirsuta*, Lesser Trefoil *Trifolium dubium*, Hogweed *Heracleum sphondylium*, Creeping Buttercup *Ranunculus repens*, Creeping Thistle, Cut-leaved Crane's-bill *Geranium dissectum* and ornamental Goatsbeard *Tragopogon* sp.

4.2.3 The eastern field within the site is dominated by species-poor semi-improved grassland with abundant ruderal and ephemeral species (1). It is expected that this species composition is the result of past agricultural improvement, ground disturbance (possibly by intensive livestock grazing) and periods of under management. The sward is generally dominated by coarse perennial grasses including Yorkshire Fog, Couch Grass *Elymus repens*, False Oat-grass *Arrhenatherum elatius* and Cocksfoot. Ruderal and ephemeral species included Broadleaved Dock *Rumex obtusifolius*, Nettle *Urtica dioica*, Spear Thistle *Cirsium vulgare*, Foxglove *Digitalis purpurea*, Common Fleabane *Pulicaria dysenterica*, Broadleaved Willowherb *Epilobium montanum*, Common Ragwort *Jacobaea vulgaris* and Scentless Mayweed *Tripleurospermum inodorum*. Other frequent forb species included Common Mouse-ear *Cerastium fontanum*, White Clover *Trifolium repens*, Creeping Buttercup, Cut-leaved Crane's-bill, St John's-wort *Hypericum* sp., Lesser Trefoil, Red Clover *Trifolium pratense*, Germander Speedwell *Veronica chamaedrys* and Oxeye Daisy *Leucanthemum vulgare*. Although still relatively species-poor, the condition of the grassland improves towards the eastern margin of the site where there are fewer ruderal species and a higher density of forbs including abundant Lesser Stitchwort *Stellaria graminea*.

4.2.4 Along the lower-lying eastern margin of the site the grassland becomes damper with frequent rushes and marginal vegetation (10). Yorkshire Fog generally remains the most abundant species with frequent False Oat-grass, Compact Rush *Juncus conglomeratus*, Hemlock Water-dropwort *Oenanthe crocata*, Water Mint *Mentha aquatica*, Marsh Thistle *Cirsium palustre*, Broadleaved Dock, Lesser Stitchwort and Comfrey *Symphytum officinale*. Other less frequent species recorded in these areas included Greater Bird's-foot Trefoil *Lotus pedunculatus*, False Fox-sedge *Carex otrubae* with low numbers of Early Marsh-orchid *Dactylorhiza incarnata*, Southern Marsh-orchid *Dactylorhiza praetermissa* and Ragged Robin *Lychnis flos-cuculi*.

4.3 Wet broadleaved woodland/ scrub

4.3.1 The eastern margin of the site supports a small area of wet woodland (12) dominated by mature Goat Willow *Salix caprea* with occasional Hazel *Corylus avellana* and Hawthorn *Crataegus monogyna* which is located along the base of a stream valley (11). The ground flora was often dominated by Himalayan Balsam *Impatiens glandulifera* with more shaded areas supporting a sparse covering of False Brome *Brachypodium sylvaticum*, Nettle,

Lords-and-ladies *Arum maculatum*, Male Fern *Dryopteris filix-mas*, Hart's-tongue Fern *Asplenium scolopendrium*, Wood Avens *Geum urbanum*, Wood Millet *Milium effusum* and Ivy *Hedera helix*.

4.3.2 The eastern boundary of the site comprises a low earth bank with mature Holly *Ilex aquifolium* and Ash *Fraxinus excelsior* trees. Beyond this to the east of the site is woodland and scrub with Ash, Holly and Goat Willow (13).

4.4 Hedgerows

4.4.1 The majority of the site boundary and central field boundary comprise relatively species-poor native hedgerows (2,4,5,6,7,9,14). These hedgerows are generally intact (2,5,6,14), are periodically managed by cutting and are dominated by Hawthorn and/ or Blackthorn *Prunus spinosa*. Other occasional to frequent woody species recorded within the hedgerows include Holly, Elder *Sambucus nigra*, Ash, Pedunculate Oak *Quercus robur* and Dog Rose *Rosa canina*. Bramble *Rubus fruticosus* agg. was also abundant, and Honeysuckle *Lonicera periclymenum*, Ivy and Black Bryony *Dioscorea communis* were often present. The ground flora was generally dominated by Bracken *Pteridium aquilinum* and tall ruderal species including Nettle, Cow Parsley *Anthriscus sylvestris* and Broadleaved Dock.

4.4.2 Sections of defunct outgrown hedgerow (7,9) occur along the north-western and northern boundaries of the eastern field. These are unmanaged, contain a large proportion of gaps and Bramble often makes up a dominant component of the hedgerows. These hedgerows also support a small number of mature Pedunculate Oak trees.

4.4.3 Garden boundaries along the southern boundary of the western field comprise a mix of walls, fences and/ hedgerows with overhanging trees (4). Mixed species hedgerows with trees along these boundaries include Holly, Hawthorn, Horse Chestnut *Aesculus hippocastanum*, Apple *Malus* sp., Elder *Sambucus nigra* and Garden Privet *Ligustrum ovalifolium*. A short section of Cherry Laurel *Prunus laurocerasus* hedge is also present.

4.5 Scrub

4.5.1 In addition to scrub habitats associated with hedgerows and woodland, other scrub habitats within the site include an area of dense Bramble scrub with self-seeded Ash in the north-western corner of the eastern field (8) and scattered Goat Willow and Bramble along a dry ditch in the east of the site (15).

4.6 Tall ruderals

4.6.1 Tall ruderal vegetation is frequent within areas of grassland in the eastern field (1), within marshy grassland (10) and along the bases of hedgerows throughout the site. Ruderal

vegetation and climbers also occur along the southern margin of the western field which abuts offsite gardens (4) including Bracken, Cleavers *Galium aparine*, Nettle, Black Bryony, Hogweed and Ivy.

4.7 Stream and ditch

4.7.1 A small watercourse flows southwards along the eastern margin of the site (11) through areas of marshy grassland (10) and wet woodland (12). The channel is narrow and shallow at the northern end and supports marginal and aquatic vegetation along its banks including Brooklime *Veronica beccabunga*, Pond Sedge *Carex* sp., Fool's Watercress *Apium nodiflorum* and Yellow Flag *Iris pseudacorus*. To the south it enters wet woodland and the channel widens and forms a steep sided gully along some sections due to the fast flow.

4.7.2 A dry ditch adjoins the stream (11) on the eastern margin of the site which supports marshy grassland with abundant rushes, scattered Goat Willow and a dense stand of Bramble (15).

4.8 Other habitats

4.8.1 Garden boundaries along the southern boundary of the western field comprise a mix of fences and a small section of brick wall (4). In the south-eastern corner of the site is a small area of asphalt hard standing located along the track bordering the southern site boundary.

5 PROTECTED AND NOTABLE SPECIES

5.1 Bats

Roosting habitat

5.1.1 Mature trees associated with woodland along the eastern site margin and along hedgerows on the boundaries of the site may have potential to support roosting bats. There are no buildings located within or immediately 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 and trees in addition to areas of marshy grassland and woodland habitats on the eastern margin of the site in combination provide good quality habitat for foraging bats. Hedgerows 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 areas of woodland and hedgerows on the margins of the site. Although these habitats are generally considered suboptimal for

Dormice due to their limited extent and low species-diversity and are unlikely to support Dormice in isolation, adjoining areas of woodland to the east and hedgerows 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 south and east. In view of this, it is conceivable that Dormice could be present at the site in low numbers.

5.3 Otter

5.3.1 The stream within the site is considered unsuitable for Otter due to its small size and is unlikely to support sufficient fish for foraging Otters. It is therefore highly unlikely that Otter are present at the site.

5.4 Water Vole

5.4.1 The small stream along the eastern margin of the site provides potential habitat for Water Vole. Although the majority of the stream within the site flows through areas of wet woodland with limited marginal vegetation, sections in the north-east of the site support suitable marginal and aquatic vegetation for foraging. It is therefore considered possible that Water Vole could be use the section of stream within 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. Infrequently managed areas of the grassland, scrub, hedgerow bases and wooded habitats within and bordering the site however provide suitable sett building and foraging opportunities for Badger.

5.6 Birds

5.6.1 Woodland, trees, scrub, hedgerow, rough grassland and wetland habitats offer nesting opportunities for a number of bird species within the site and it is likely that the site supports an assemblage of breeding birds typical of garden, woodland edge, farmland and wetland 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 rough grassland dominating the site, marshy grassland, tall ruderal vegetation, hedgerow bases and woodland provide suitable habitat for common and widespread reptile species, such as Grass Snake, Common Lizard and Slow Worm. Due to the extent of these habitats and the abundance of similar habitat in the surrounding area however, it is unlikely that the site would be of more than local importance for this group.

5.8 Great Crested Newt

5.8.1 There are no waterbodies within the site which provide potential breeding habitat for Great Crested Newts. The stream on the eastern margin of the site is considered unsuitable for breeding Great Crested Newts due to its fast flow. The rough grassland dominating the site, hedgerow bases, woodland and tall ruderal vegetation do however provide suitable habitat for newts during terrestrial phases. A review of OS maps for the area suggest that the closest ponds to the site are a group of three ponds located approximately 260-280m west of the site. The typical maximum routine migratory distance of Great Crested Newt from breeding ponds during terrestrial phases is 250m and more recent studies suggest that 95% of summer refuges are located within 63m of the breeding pond (Cresswell and Whitworth, 2004). Although Great Crested Newts can travel much farther distances between breeding ponds, it is considered unlikely that the site comprises a significant area of terrestrial habitat for any local populations of this species.

5.9 Invertebrates

5.9.1 Although the site supports a range of broad habitat types that can be of value to invertebrates, including wet woodland, semi-improved grassland, marshy grassland and hedgerows, those present at the site are generally species-poor and are likely to be highly typical of habitats in the surrounding 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, watercourse and wet 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. Ragged-robin, which is a relatively common and widespread plant species but is listed as 'Near Threatened' on the Vascular Plant Red List for England due to recent declines (largely as a result of changes to agricultural practices), was recorded in only small numbers in association with marshy grassland in the south-eastern corner of the site although this small population is unlikely to be locally notable.

5.10.2 Himalayan Balsam was recorded along the stream corridor and within areas of wet woodland on the eastern margin of the site during the Phase 1 Habitat Survey. This species is a non-native invasive species listed 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
International	Dorset Heaths SAC/ Dorset Heathlands SPA and Ramsar site [off-site] Poole Harbour SAC, SPA and Ramsar [off-site] Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC [off-site]
National	None
Regional	None
County	None
District	None
Local	<p>High:</p> <ul style="list-style-type: none"> - Stream (11) <p>Moderate:</p> <ul style="list-style-type: none"> - Wet woodland (12,13) - Marshy grassland and dry ditch (10,15) <p>Low:</p> <ul style="list-style-type: none"> - Native hedgerows and associated trees (2,4,5,6,7,9,14) - Species-poor semi-improved grassland (1,3)
Negligible/ Site	All other habitats recorded.

6.2 Although not located within the site itself, the Dorset Heathlands SPA/ Ramsar and Dorset Heaths SAC lie within 1.9km and 2.1km of the site boundary respectively, Poole Harbour SPA and Ramsar lie within 2km and 2.1km of the site respectively and Dorset Heaths (Purbeck and Wareham) and Studland Dunes SAC lies within 4.1km 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 habitat of highest nature conservation value associated with the site is the stream corridor (including bordering marginal vegetation) located on the eastern margin of the site. This habitat is considered to be of **high local value** as, despite having only a limited length associated with the site, it comprises part of a more extensive linear habitat contributing to the wider network of watercourses and forms part of a wildlife corridor through the surrounding area.

- 6.5 The semi-natural wet woodland and areas of marshy grassland (including dry ditch) in the east of the site are both considered to be of **moderate local value**. Although these habitats are of limited extent within the site, are relatively species-poor and are likely to be fairly abundant habitats in the surrounding area, they do provide opportunities for a range of wildlife and compliment the stream corridor and similar habitats in the surrounding area. They also provide potential opportunities for restoration to create higher value grassland and woodland habitats within the site. These habitats are however not considered likely to meet criteria for recognition as Section 41 Habitats of Principal Importance 'Wet woodland' or 'Purple Moor Grass and Rush Pasture' in their present condition due to poor species diversity.
- 6.6 Native hedgerows with associated trees 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 and being fairly species-poor, they appreciably enhance the ecological interest of the site, provide habitat for a range of species, and contribute towards the wider network of connective habitats facilitating the movement of wildlife around the site and its surrounds.
- 6.7 Areas of species-poor semi-improved grassland dominating the site are considered in combination to be of **low local value**. Although these habitats are relatively species-poor and are likely to be an abundant habitat in the surrounding area, they do provide opportunities for a range of wildlife, complimenting other habitats within and bordering the site, and also provide potential opportunities for restoration to create higher value species-rich grassland habitats within the site. This grassland is however not considered likely to meet criteria for recognition as the Section 41 Habitats of Principal Importance 'Lowland Meadow' in its present condition due to poor species diversity.
- 6.8 All other habitats present within the site including ornamental hedgerow, tall ruderal vegetation, Bramble scrub and hardstanding 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).

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 woodland, scrub, trees 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 suitable to support Great Crested Newts are present within 300m of the site boundary and the site provides suitable habitat for Great Crested Newts during terrestrial phases. Although the site is unlikely to support significant numbers of terrestrial phase newts, it would be prudent to carry out a survey to determine the presence/ likely absence of Great Created Newts within these waterbodies in order to ascertain whether this species is likely to use the site and any mitigation and licensing requirements. This should comprise either: (a) an eDNA test (which can be carried out between mid-April – late-June); or (b) 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 conformed then further survey may be required in order to determine the size of the population present.

UK Protected Species

Badgers: Areas of rough grassland, hedgerow bases, scrub and 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.

Water Vole: Suitable habitat for Water Vole is provided along the stream corridor within the site. If the development proposals are to affect the stream, it is recommended that a Water Vole survey is carried out to determine the presence/ likely absence of this species. This would comprise two visits between April and September during which the watercourse would be searched for evidence of this species.

Reptiles: Areas of rough and marshy grassland, scrub, woodland habitats and hedgerow bases throughout the site provide suitable habitat for common and widespread species of reptile. It is recommended that a survey is carried out to determine the need for any mitigation requirement with regard to this group. Reptile surveys can be carried out between mid-March and mid-June and August to September inclusive, and include the installation of artificial refuges which are checked for basking reptiles on up to 7 occasions in suitable weather conditions.

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 The grassland, hedgerow, scrub and woodland habitats within the site are generally low in botanical diversity and are limited in extent. Furthermore, similar habitat is likely to be abundant in the surrounding area, and it is therefore considered unlikely that the site supports a notable assemblage of invertebrates or plant species. No further survey for invertebrates or plants is therefore 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.

7.5 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.

- 7.6 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 (1.9km from the site boundary), Dorset Heaths SAC (2.1km), Poole Harbour SPA (2km), Poole Harbour Ramsar (2.1km) and 'Dorset Heaths (Purbeck and Wareham) and Studland Dunes' SAC (4.1km). SPAs and SACs are designated under the EC Habitats Directive 1992 (Council Directive 92/43/EEC) transposed onto 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 50 units or more this should be achieved through provision of a bespoke Suitable Alternative Natural Greenspace (SANG) in accordance with Natural England design guidance 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, approximately 1.6km north of the site. An estimated travel time of 4 minutes has been calculated between the site and the SANG (Awcock Ward partnership, pers comm.). Guidance for the delivery of SANGs is provided in Appendix 5 of the Purbeck Local Plan. Where it is not possible to provide a bespoke SANG, consideration could be given to providing a contribution towards a suitably located strategic SANG. Although this is not wholly in keeping with the SPD which favours use of strategic SANG capacity for smaller sites, such an approach to mitigation can be equally effective for large and small developments alike and is widely applied in the vicinity of SPAs elsewhere.

8.2.5 In addition to provision of SANG mitigation, Purbeck District Council would require payment of SAMM 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 input from STWs. The site comprises managed grassland and appears to have been used for livestock grazing. This would be expected to have resulted in nutrient runoff and filtration from both animal manure and fertilisers added to the grassland into Poole Harbour, however exact levels of regular 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 95 houses changing 5.32ha of land from agricultural to urban use would require 2.93ha 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.

'Dorset Heaths (Purbeck and Wareham) and Studland Dunes' SAC

- 8.2.13 It is expected that any potential increase in recreational use of the *'Dorset Heaths (Purbeck and Wareham) and Studland Dunes' SAC* by residents of new development at the site can be mitigated through the provision of a bespoke SANG as described above.

General

- 8.2.14 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.
- 8.2.15 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 stream on the eastern margin of the site is considered of high local value and the associated wet woodland, marshy grassland and ditch are considered of moderate local value. These habitats form part of a wider habitat corridor along the watercourse and development proposals should seek to maintain the ecological function of these habitats through their retention and implementation of measures to avoid potential indirect adverse effects during construction and operational phases.
- 8.3.3 Any construction works carried out in the vicinity of the stream corridor or to associated marshy grassland, wet woodland and ditch, should be carried out in such a manner as to avoid possible adverse effects on these wetland features and downstream habitats through maintenance of an appropriate stand-off and implementation of works in accordance with the Environment Agency Pollution Prevention Guidance, particularly PPG6 *'Working at construction and demolition sites'* (Environment Agency, 2010) and PPG5 *'Works and maintenance in or near water'* (Environment Agency, 2007) or subsequent guidance. The surface water run-off scheme for the operational phase of the proposed development should also seek to maintain the quality, quantity and constancy of water entering these habitats.

- 8.3.4 Native hedgerows, scrub and trees 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). Species-poor semi-improved grassland dominating the site is also considered of low local value for nature conservation although retention of much of this habitat will not be achievable in view of the emerging development proposals.
- 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 through the development water drainage strategy and/ or off-site provision (e.g. in association with SANGs).
- 8.3.6 Retained woodland, hedgerows 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 woodland 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 the woodland/ hedgerow edges (a gradation from grassland to scrub to woodland) 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 woodland 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 such as restoration of species-poor semi-improved and marshy grassland, and enhancement of the woodland and stream corridor within the site. Measures for habitat creation, restoration 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, woodland, native hedgerows, scrub and scattered trees 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 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.

Water Voles

- 8.4.6 The stream corridor within the site provides suitable habitat for Water Vole and it is therefore recommended that a survey for this species are carried out in support of any

forthcoming planning application for development potentially affecting the stream corridor (see *Section 7*). Streamside habitats could potentially be enhanced for this species through control of invasive Himalayan Balsam as part of any management scheme for the site (see *Section 8.4.12*)

Birds

8.4.7 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.

8.4.8 Notwithstanding the above, all wild birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended) and is it therefore recommended that any removal of trees and scrub vegetation 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

8.4.9 Habitats present at the site provide suitable habitat for common and widespread reptile species and it is therefore recommended that a reptile survey is carried out in support of any forthcoming planning application to determine the need for any mitigation with regard to this group (see *Section 7*). Depending on the outcome of the survey, it may be necessary for development works to 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. Such measures might include the retention of habitats such as hedgerows, scrub, ditches and rough grassland and/ or the inclusion of new areas of suitable habitat within areas of open space.

Great Crested Newts

8.4.10 Although it is considered highly unlikely that significant numbers of Great Crested Newts use the site during terrestrial phases due to its distance from off-site waterbodies, it is 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 associated 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 which are unlikely to support a notable assemblage of invertebrates in a local context. 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.

Invasive plants

- 8.4.12 Himalayan Balsam, which is listed as non-native invasive species on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), was recorded along the stream corridor and within areas of wet woodland on the eastern margin of the site during the Phase 1 Habitat Survey. 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 Himalayan Balsam at the site to prevent its 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 wetland habitats present, including:
 - Sensitive management of scrub, trees and marginal vegetation along the stream corridor to enhance the diversity of bankside habitats; and
 - 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.
- 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 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;
 - Removal and control of invasive species; and
 - Instatement of management including coppicing where appropriate.
- Other general enhancement and management measures:
 - Maintenance and enhancement of standing and fallen deadwood habitats where safe to do so;
 - 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;
 - 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;
 - 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.
 - 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; and
 - Provision of log and brash piles along hedgerows, pond margins and within semi-natural areas of planting to provide habitat for invertebrates, amphibians and reptiles.

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 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 local wildlife. 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)*.

Environment Agency (2007) *Works and maintenance in or near water: PPG5. Pollution Prevention Guidelines*. Environment Agency, Bristol.

Environment Agency (2010) *Working at construction and demolition sites: PPG6. Pollution Prevention Guidelines*. Environment Agency, Bristol.

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.

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













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APPENDIX A
Desk Study Results

APPENDIX B
Phase 1 Habitat Survey Plan and Target Notes



- KEY**
-  Site boundary
 -  Semi-natural broadleaved woodland
 -  Scattered trees
 -  Intact species-poor hedgerow
 -  Defunct species-poor hedgerow
 -  Dense native scrub
 -  Scattered scrub
 -  Tall ruderals
 -  SI Species-poor semi-improved grassland
 -  Marshy grassland/ rush pasture
 -  Wall
 -  Fence
 -  Stream and direction of flow
 -  Dry ditch
 -  Target note

CLIENT:
Wyatt Homes

PROJECT:
Land East of Wareham Road, Lytchett Matravers

TITLE:
Phase 1 Habitat Survey Plan

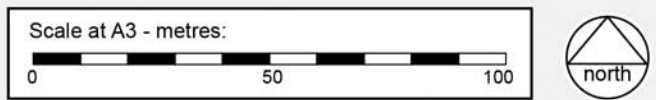
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Landscape Architecture
Masterplanning
Ecology

Target Notes

- 1. Semi-improved grassland with tall ruderals:** The eastern field within the site is dominated by species-poor semi-improved grassland. Tall ruderal and ephemeral species are abundant in the sward and the species present suggest that the grassland may have been subject to soil disturbance in the past. Grass species present in the sward include Couch Grass *Elymus repens*, Yorkshire Fog *Holcus lanatus*, Creeping Bent *Agrostis stolonifera*, False Oat-grass *Arrhenatherum elatius*, Cocksfoot *Dactylis glomerata*, Rough Meadow-grass *Poa trivialis*, Meadow Foxtail *Alopecurus pratensis*, Soft Brome *Bromus hordeaceus* and Barren Brome *Bromus sterilis*. Forb species include Common Mouse-ear *Cerastium fontanum*, Foxglove *Digitalis purpurea*, White Clover *Trifolium repens*, Creeping Buttercup *Ranunculus repens*, Common Ragwort *Jacobaea vulgaris*, Common Fleabane *Pulicaria dysenterica*, Broadleaved Dock *Rumex obtusifolius*, Cut-leaved Crane's-bill *Geranium dissectum*, Scentless Mayweed *Tripleurospermum inodorum*, Spear Thistle *Cirsium vulgare*, St John's-wort *Hypericum* sp., Nettle *Urtica dioica*, Lesser Trefoil *Trifolium dubium*, Red Clover *Trifolium pratense*, Broadleaved Willowherb *Epilobium montanum*, Germander Speedwell *Veronica chamaedrys*, Oxeye Daisy *Leucanthemum vulgare* and Lesser Stitchwort *Stellaria graminea*. The grassland becomes marshy along the low-lying eastern margin (see TN10).
- 2. Hedgerow:** An intact species-poor hedgerow subject to infrequent cutting. The hedgerow is dominated by Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa* with occasional Holly *Ilex aquifolium* and Dog Rose *Rosa canina*. The ground flora comprises Bracken *Pteridium aquilinum*, Cow Parsley *Anthriscus sylvestris*, Broadleaved Dock and Nettle. Honeysuckle *Lonicera periclymenum* is also frequent.
- 3. Semi-improved grassland:** The western field within the site comprises relatively species-poor semi-improved grassland. The sward is heavily dominated by Yorkshire Fog with occasional Soft Brome, Cocksfoot, Creeping Bent, Timothy *Phleum pratense*, Sweet Vernal-grass *Anthoxanthum odoratum*, Perennial Ryegrass *Lolium perenne* and Crested Dog's-tail *Cynosurus cristatus*. Forb species recorded in the sward included Rough Hawkbit *Leontodon hispidus*, Common Bird's-foot Trefoil *Lotus corniculatus*, Dandelion *Taraxacum* agg., Common Vetch *Vicia sativa*, Hairy Tare *Vicia hirsuta*, Lesser Trefoil, Hogweed, Creeping Buttercup, Creeping Thistle, Cut-leaved Crane's-bill and ornamental Goatsbeard *Tragopogon* sp.
- 4. Garden boundaries:** The southern boundary of the western field comprises a mix of fences, walls and hedgerows with occasional trees. Hedgerow, scrub and tree species on the boundary include Holly, Hawthorn, Horse Chestnut *Aesculus hippocastanum*, Apple *Malus* sp., Cherry Laurel *Prunus laurocerasus*, Elder *Sambucus nigra* and Garden Privet *Ligustrum ovalifolium*. Tall ruderal vegetation and climbers frequently occur along the margin of the field including Bracken, Cleavers *Galium aparine*, Nettle, Black Bryony *Dioscorea communis*, Hogweed *Heracleum sphondylium* and Ivy *Hedera helix*.
- 5. Hedgerow:** Intact relatively species-poor native hedgerow forming the western boundary of the site along Wareham Road, dominated by Blackthorn with Ash *Fraxinus excelsior*, Elder, Pedunculate Oak *Quercus robur*, Hawthorn and Bramble *Rubus fruticosus* agg. The ground flora is dominated by tall ruderal vegetation.
- 6. Hedgerow:** Intact relatively species-poor native hedgerow forming the northern boundary of the western field within the site, dominated by Hawthorn with Blackthorn, Elder, Dog Rose and Holly.
- 7. Defunct hedgerow and trees:** North-western boundary of the eastern field within the site comprising a heavily defunct hedgerow with abundant Bramble and tall ruderal vegetation. Woody species include Blackthorn, Elder and Hawthorn, with a mature Oak tree. Bracken, Cleavers, Cocksfoot and Cow Parsley are also frequent.

8. **Scrub:** In the north-western corner of the eastern field is an area of Bramble scrub with self-seeded Ash trees.
9. **Defunct hedgerow:** An outgrown defunct hedgerow forming the northern boundary of the eastern field within the site comprising mature unmanaged Hawthorn with Elder, Blackthorn, Holly and abundant Bramble. Two mature Oak trees occur along the hedgerow.
10. **Marshy grassland/ rush pasture:** Damp low-lying ground along the eastern margin of the site supporting marshy grassland with frequent rushes and marginal vegetation. Yorkshire Fog is most abundant with frequent False Oat-grass, Compact Rush *Juncus conglomeratus*, Hemlock Water-dropwort *Oenanthe crocata*, Water Mint *Mentha aquatica*, Marsh Thistle *Cirsium palustre*, Broadleaved Dock, Lesser Stitchwort and Comfrey *Symphytum officinale*. Other less frequent species recorded in these areas included Greater Bird's-foot Trefoil *Lotus pedunculatus*, False Fox-sedge *Carex otrubae* with low numbers of Early Marsh-orchid *Dactylorhiza incarnata*, Southern Marsh-orchid *Dactylorhiza praetermissa* and Ragged Robin *Lychnis flos-cuculi*.
11. **Stream:** Small watercourse along the eastern margin of the site with a fast southerly flow. At the northern end the stream runs through marshy grassland (TN10), is narrow and shallow, and supports marginal and aquatic vegetation including Brooklime *Veronica beccabunga*, Pond Sedge *Carex* sp., Fool's Watercress *Apium nodiflorum* and Yellow Flag *Iris pseudacorus*. To the south it runs through wet woodland/ scrub (TN12), forming a steep sided gully along some sections.
12. **Wet woodland/ scrub:** A damp area along the eastern margin of the site dominated by mature Goat Willow *Salix caprea* with occasional Hazel *Corylus avellana* and Hawthorn. The ground flora was often dominated by Himalayan Balsam *Impatiens glandulifera* with more shaded areas supporting a sparse cover of False Brome *Brachypodium sylvaticum*, Nettle, Lords-and-ladies *Arum maculatum*, Male Fern *Dryopteris filix-mas*, Hart's-tongue Fern *Asplenium scolopendrium*, Wood Avens *Geum urbanum*, Wood Millet *Milium effusum* and Ivy.
13. **Eastern boundary:** The eastern boundary comprises a low earth bank with mature Holly and Ash trees. Beyond to the east of the site is dense woodland and scrub with Ash, Holly and Goat Willow.
14. **Hedgerow:** A mostly intact species-poor native hedgerow forming the southern boundary of the eastern field within the site. Woody species forming the hedgerow include Blackthorn, Hawthorn, Hazel, Oak and Gorse *Ulex europaeus*. Ground flora includes Herb Robert *Geranium robertianum*, Hogweed, Cow Parsley, False Oat-grass, Red Campion *Silene dioica*, Wood Avens, Cleavers, Black Bryony, Common Vetch and Hemp-agrimony *Eupatorium cannabinum*.
15. **Dry ditch:** A dry ditch adjoining the stream on the eastern margin of the site supporting marshy grassland with abundant rushes, scattered Goat Willow and a dense stand of Bramble is present near the eastern end.

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.