



Phase 1 Habitat and Ecological Scoping Survey

Barton Farm, Winchester

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Notice to Interested Parties

To achieve the study objectives stated in this report, we were required to base our conclusions on the best information available during the period of the investigation and within the limits prescribed by our client in the agreement.

No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information. Thus, we cannot guarantee that the investigations completely defined the degree or extent of e.g. species abundances or habitat management efficacy described in the report.

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0 EXECUTIVE SUMMARY

- 0.1 RPS Ecology was commissioned by Cala Homes (South) Ltd to carry out a Phase 1 Habitat and ecological scoping survey of a proposed development site at Barton Farm, Winchester. A Phase 1 Habitat survey of the site had previously been carried out in 2001 and detailed surveys of Badgers, bats, breeding birds and hedgerows were carried out in 2002. In addition, an extended Phase 1 survey was carried out of part of the site in November 2007.
- 0.2 The aims of the survey were to: (a) map the habitats currently on site, (b) determine the current potential for the site to support species of conservation importance, and (c) confirm whether there were any significant changes to the habitats on site since the extended Phase 1 survey in 2001 and (d) assess whether the results of previous surveys of Badgers, bats, breeding birds and hedgerows carried out on the site in 2002 are still likely to be applicable given the habitats currently on site.
- 0.3 The site is located on the northern side of Winchester. The site is bordered by existing housing to the west and south, farmland to the north and existing housing to the east. A railway line runs through the centre of the site. The survey was carried out in August 2008.
- 0.4 There are two statutory sites within 2km of the proposed development site, the River Itchen Site of Special Scientific Interest and the River Itchen Special Area of Conservation. Four non-statutory Sites of Importance for Nature Conservation are also present within 2km of the proposed development site, the Royal Winchester Golf Course (Teg Down); Flowerdown, Littleton; St. Swithun, Headbourne Worthy and Easton Down.
- 0.5 The majority of the site is considered to be of low ecological value, comprising nine intensively farmed arable fields of which only five have set-aside or buffer strips. The permanent features of significant ecological value are the line of Beech and Ash trees at Target Note 8 and the mature trees at Target Notes 9, 10 and 11, which provide habitat for a range of species, the hedgerows, and the small area of calcareous grassland along boundary H18. Hedgerows and calcareous grassland are both UK and local Biodiversity Action Plan (BAP) priority habitats and habitats of principal importance for the conservation of biodiversity in England, listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.
- 0.6 The areas of set-aside provide valuable habitat for a variety of species, but by their nature are not permanent. However, arable field margins are also a UK Biodiversity Action Plan (BAP) priority habitat and listed on Section 41 of the NERC Act 2006. Arable land is a Hampshire BAP priority habitat.

- 0.7 Although no Badger setts were found on site during this survey, Badger dung was found in four parts of the site and the site provides potential foraging habitat. A repeat survey to search for Badger setts is recommended prior to construction works commencing, if these are not begun within one year of the survey (September 2009), to check that new setts have not been created within 30m of construction work.
- 0.8 The majority of the site, comprising open arable fields, provides poor foraging habitat for bats but the hedgerows and tree lines provide foraging habitat and commuting routes. No buildings which could provide roosting habitat for bats were present on the site but the mature trees within the site boundary could support roosting bats, particularly those with cracks and crevices. Further evaluation of these trees is required if any of them will need to be felled, to ascertain whether they do support bat roosts.
- 0.9 The hedgerows are heavily managed and unlikely to provide habitat for Dormice. In addition, there are no records of Dormice in the local area and no significant areas of suitable habitat nearby which could provide source populations of Dormice to colonise the hedgerows.
- 0.10 The site was not considered to provide potential habitat for any other protected mammal species. However, Hedgehogs and Brown Hares have been recorded on site; both species are UK BAP priority species and listed on Section 41 of the NERC Act 2006.
- 0.11 The majority of the site is considered unlikely to support reptiles, comprising arable fields which are cultivated close to the boundaries. However, there are some areas of rough grass, particularly around the pony paddocks in the north of the site and along the railway line. These areas are the subject of a separate reptile survey
- 0.12 The intensive arable farming regime on most of the site renders it unlikely that the fields support significant bird populations of conservation importance, although the hedgerows are likely to be of value to a range of breeding and over-wintering species, and the areas of set-aside provide foraging habitat for a number of farmland bird species. A separate bird survey has been carried out.
- 0.13 The intensive arable farming regime on most of the site renders it unlikely to support significant populations of invertebrates of conservation importance. The habitats on site considered to be of most value to invertebrates are the mature trees, the more species-rich, mature hedgerows, and the areas of set-aside, on account of the abundance of flowering plants, although their temporary nature reduces their value in the long-term.

- 0.14 Corn marigold *Chrysanthemum segetum* was found in an area of set-aside along the boundary of Field F8. This species is classed as vulnerable in the *Vascular Plant Red Data List for Great Britain* (2005).

1 INTRODUCTION

Background to the study

- 1.1 RPS Ecology was commissioned by Cala Homes (South) Ltd to carry out a Phase 1 Habitat, and ecological scoping survey of a proposed development site at Barton Farm, Winchester. A Phase 1 Habitat survey of the site had previously been carried out in 2001 (Ecoscope, 2001) and detailed surveys of Badgers, bats, breeding birds and hedgerows were carried out in 2002 (Ecoscope 2002a, b, c & d). In addition to these surveys an extended Phase 1 survey was carried out of part of the site in November 2007 (RPS, 2008).

Aims and objectives

- 1.2 The aims of the survey were to: (a) map the habitats currently on site, (b) determine the current potential for the site to support species of conservation importance, and (c) confirm whether there were any significant changes to the habitats on site since the extended Phase 1 survey in 2001 and (d) assess whether the results of previous surveys of Badgers, bats, breeding birds and hedgerows carried out on the site in 2002 are still likely to be applicable given the habitats currently on site.

Study area

- 1.3 The site is located on the northern side of Winchester. The site is bordered by existing housing to the west and south, farmland to the north and existing housing to the east. A railway line runs through the centre of the site.

2 METHODS

Review of existing ecological data

- 2.1 As part of the survey in 2007, a desk-based study was conducted that involved contacting the Hampshire Biodiversity Information Centre (Hbic). Records of protected and notable species and statutory and non-statutory sites within 2km of the site were provided.

Survey

- 2.2 A suitably qualified ecologist, Danial Winchester, visited the site on the 22nd August 2008 and mapped the habitats present within the site boundary, according to current Phase 1 Habitat survey methodology (JNCC, 2003).

- 2.3 In addition, the surveyor searched for signs of, or suitable habitat for, species of conservation importance, such as Badgers, bats, reptiles and birds. These include species listed on Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 and on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. (which lists species considered to be of principal importance for the conservation of biodiversity in England).
- 2.4 The hedgerows were previously surveyed in 2002 (Ecoscope, 2002a) to determine whether they met the requirements for 'important hedgerows' under the Hedgerow Regulations, 1997. The survey only evaluated the hedgerows against the wildlife and landscape criteria of the Hedgerow Regulations (1997) and did not assess archaeological and historical records or determine the age of the hedgerows. Hedgerows are classified as species-rich (on Figure 3.1) if an average of five or more species were located within the survey sections of the Hedgerow Regulations Survey (Ecoscope, 2002a). The hedgerow descriptions included in this report, for completeness, are based on Ecoscope, 2002a, but updated as necessary.
- 2.5 Plant species nomenclature follows that of the BSBI checklist of the British and Irish Flora (BSBI, 2007).

Limitations

- 2.6 The survey was carried out during the main growing season for plants, and the habitats described were based on the species present at the time of survey.

3 RESULTS

Desk Study

Sites of Nature Conservation Importance

- 3.1 The site itself is not designated as a statutory or non-statutory site of nature conservation importance (see Appendix A). However, there are six designated conservation sites within 2km of the site.
- 3.2 Two statutory conservation sites, The River Itchen Site of Special Scientific Interest (SSSI) and the River Itchen Special Area of Conservation (SAC), are within 2 km of the site. Details of their features of interest, area and distance from the site are given in Table 3.1.
- 3.3 Four non-statutory conservation sites, Sites of Importance for Nature Conservation (SINCs), are present within 2 km of the site. These are: Royal Winchester Golf Course (Teg Down); Flowerdown, Littleton; St. Swithun, Headbourne Worthy and Easton Down. Details of these sites are given in Table 3.2 and locations are shown in Appendix A.

Table 3.1. Statutory sites within 2km of the study area

Site name	Area	Interest Features	Distance from site (km)
River Itchen SSSI	748	Chalk stream and river, fen meadow, flood pasture and swamp habitats, riparian vegetation communities (including wet woodlands) and side channels, runnels and ditches. Populations of nationally rare and scarce species including Southern Damselfly <i>Coenagrion mercuriale</i> and White-clawed Crayfish <i>Austropotamobius pallipes</i> .	0.25
River Itchen SAC	309	Annex I habitat (Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation), Annex II species (Southern Damselfly, Bullhead <i>Cottus gobio</i> , White-clawed Crayfish, Brook Lamprey <i>Lampetra planeri</i> , Atlantic Salmon <i>Salmo salar</i> and Otter <i>Lutra lutra</i>)	0.35

Table 3.2: Non-statutory sites within 2km of the study area (numbers refer to Hbic map in Appendix A)

Site name	Area (ha)	Interest Features	Distance from site (km)
1. Royal Winchester Golf Course (Teg	75	Unimproved grassland, supports Chalk Milkwort <i>Polygala</i>	1.3

Site name	Area (ha)	Interest Features	Distance from site (km)
Down) SINC		<i>calcareae</i> and Bastard-toadflax <i>Thesium humifusum</i>	
2. Flowerdown, Littleton SINC	6.5	Grassland	0.3
3. St. Swithun, Headbourne Worthy SINC	0.5	Unimproved grassland	0.25
4. Easton Down SINC	0.5	Unimproved grassland	0.7

Protected or otherwise notable species within 2km of the site

Plants

3.4 Notable plant species recorded within 2 km of the site are given in Table 3.3. None of the records derive from the site itself.

Table 3.3. Plants of nature conservation interest within 2km of the study area

Scientific name	Common name	Most recent record	Species status
<i>Anthemis arvensis</i>	Corn Chamomile	2003	NR
<i>Carex acuta</i>	Slender Tufted-Sedge	2001	CR
<i>Carex elata</i>	Tufted Sedge	2001	CR
<i>Carex rostrata</i>	Bottle Sedge	1994	CS
<i>Cephalanthera damasonium</i>	White Helleborine	1997	NR
<i>Juncus subnodulosus</i>	Blunt-Flowered Rush	2001	CS
<i>Lathyrus aphaca</i>	Yellow Vetchling	2001	NR
<i>Polygala calcarea</i>	Chalk Milkwort	2000	sHS
<i>Thesium humifusum</i>	Bastard-Toadflax	2000	NS
<i>Tilia cordata</i>	Small-Leaved Lime	2003	nHR

Species Status Codes: NR: Nationally Rare, NS: Nationally Scarce, NI: Nationally Important (other), CR: County Rare, CS: County Scarce, nHR: North Hampshire Rare (Vice-County 12), sHS: South Hampshire Scarce (Vice-County 11).

Invertebrates

- 3.5 Invertebrate species of nature conservation interest recorded within 2km of the application site are given in Appendix A, Table A1. Red Data Book species recorded are *Asindulum nigrum* (a fly), *Cephalops pannonicus* (a fly), *Corymbia fulva* (a beetle), *Hilara merula* (a fly), *Hilara quadriseta* (a fly), Barberry Carpet *Pareulype berberata* (a moth) and *Syneches muscarius* (a fly). UKBiodiversity Action Plan (BAP) Priority species recorded are Stag Beetle *Lucanus cervus* (also protected through listing on Schedule 5 of the Wildlife & Countryside Act 1981), Freshwater Pea Mussel *Pisidium tenuilineatum*, Striped Lychnis *Shargacucullia lychnitis* (a moth) and Des Moulins' Whorl Snail *Vertigo moulinsiana*.

Amphibians

- 3.6 Common Frog *Rana temporaria* and Smooth Newt *Lissotriton vulgaris* (previously classified as *Triturus vulgaris*) were recorded in 2004, and Common Toad *Bufo bufo* in 2000. No records of Great Crested Newts *Triturus cristatus* were provided within 2 km of the site.

Reptiles

- 3.7 There is a record of Slow-worm *Anguis fragilis* within 2 km of the site from 2004. Slow-worms are listed on Schedule 5 of the Wildlife & Countryside Act 1981(Sections 9.1 & 9.5 only).

Mammals

- 3.8 There are records from within 2 km of the site of Northern Water Vole *Arvicola terrestris* from 2004, and of Otter *Lutra lutra* from 2003.
- 3.9 No records of Bats or Badgers were provided.

Birds

- 3.10 Hbic provided records of five bird species of conservation interest within 2 km of the area. These were a Skylark *Alauda arvensis* (UKBAP species) record from 1999; a Common Kingfisher *Alcedo atthis* (listed under Schedule 1 part 1 of the Wildlife & Countryside Act 1981 as amended) from 2002; Common Bullfinch *Pyrrhula pyrrhula* (UKBAP species) from 1999; Redwing *Turdus iliacus* (listed under Schedule 1 part 1 of the Wildlife & Countryside Act 1981 as amended) from 1999, and Song Thrush *Turdus philomelos* (UKBAP species) from 1999.

Field survey

Habitats

- 3.11 The habitat survey results are presented in the form of a Phase 1 Habitat map (Figure 3.1), with the various habitat types and target notes marked.
- 3.12 The site principally comprises nine arable fields of which five have set-aside or buffer strips. Except where there is set-aside, the fields have generally been cultivated close to the boundaries and the fields appear to be intensively farmed with few weed species present.
- 3.13 There is a small area of woodland adjacent to the western boundary of the site (northwest corner of field F1, Target Note 9, Figure 3.1). This comprises mature Beech, Sycamore *Acer pseudoplatanus*, Field Maple *Acer campestre*, Holly *Ilex aquifolium*, Hawthorn *Crataegus monogyna* and Privet *Ligustrum vulgare*, with an understorey dominated by Ivy *Hedera helix*.
- 3.14 A strip of woodland, dominated by mature Beech trees with an understorey of Privet, Sycamore, Hawthorn and occasional Yew, also runs between fields F4 and F5/F6 (Target Note 8, Figure 3.1).
- 3.15 Field F5 includes two areas of set-aside, one along the northern boundary and one along the southern boundary. The area of set-aside along the southern boundary is dominated by rank grasses and ruderal weeds, such as Cock's-foot *Dactylis glomerata*, False Oat-grass *Arrhenatherum elatius*, Creeping Thistle *Cirsium arvense*, Nettle *Urtica dioica*; and Broad-leaved Dock *Rumex obtusifolius*. A specimen of Common Broomrape *Orobanche minor* was also present in this area of set-aside. The following species were recorded in the area of set-aside running along the northern boundary of this field; Cock's-foot, False Oat-grass, Timothy *Phleum pratense*, Creeping Thistle, Nettle, Broad-leaved Dock, Bird's-foot Trefoil *Lotus corniculatus* var *sativus*, Common Ragwort *Senecio jacobaea*, Red Clover *Trifolium pratense*, White Clover *Trifolium repens*, White Melilot *Mellilotus albus*, Yarrow *Achillea millefolium*, White Campion *Silene latifolia*, Ribwort Plantain *Plantago lanceolata*, Spear Thistle *Cirsium vulgare*, Common Knapweed *Centaurea nigra*, Common Poppy *Papaver rhoeas*, Broad-leaved Willowherb *Epilobium montanum*, Great Willowherb *Epilobium hirsutum*, Teasel *Dipsacus fullonum*, Field Scabious *Knautia arvensis*, Field Forget-me-not *Myosotis arvensis*, Wild Mignonette *Reseda lutea*, and Dark Mullein *Verbascum nigrum*.
- 3.16 An area of set-aside with predominantly ruderal weeds, such as Creeping thistle and Nettle, is present on the eastern side of Field F6. There are some characteristic plants of calcareous grasslands along the eastern boundary (H8), such as Wild Marjoram *Origanum vulgare*.
- 3.17 Fields F4, F6 and F7 have areas of set-aside, with a similar species composition to the set-aside at the southern boundary of Field F5.

- 3.18 A track runs between the southern boundary of Field F8 and the northern boundary of Field F9. Alongside this track is a strip of set-aside with a similar species composition to the other areas of set-aside within the site. One notable species found in this particular stretch of set-aside was Corn Marigold *Chrysanthemum segetum*. A line of widely spaced medium-sized Beech trees adjoins the track and the northern boundary of Field F9 while a small copse of mature trees, mainly Beech and Horse Chestnut *Aesculus hippocastanum*, with an area of rank grass and ruderal weeds, such as Nettles, is present in the north eastern corner of Field F9 (Target Note 10, Figure 3.1).
- 3.19 A small area of Beech *Fagus sylvatica* woodland adjoins the northern boundary of Field F8 and the Council yard (at Target Note 11, Figure 3.1).
- 3.20 Fields F10, F11 and F12 are horse grazed pasture, comprising species-poor semi-improved grassland. The majority of the fields were heavily grazed with few forb species present, but the following species were recorded, mainly along the boundaries: Selfheal *Prunella vulgaris*, Red Bartsia *Odontites vernus*, Red Dead-nettle *Lamium purpureum*, White Dead-nettle, Nettle, Creeping Thistle, Spear Thistle, Yarrow, Broad-leaved Dock, Creeping Buttercup *Ranunculus repens*, Ribwort Plantain, White Champion, Bramble, Common Ragwort, Germander Speedwell *Veronica chamaedrys*, False Oat-grass, and Timothy.
- 3.21 Alongside the footpath and H18 is a narrow strip of species-rich calcareous grassland (Target Note 3, Figure 3.1). The species composition of this grassland includes Greater Knapweed *Centaurea scabiosa*, Common Knapweed, Red Bartsia *Odontites verna*, Yarrow, Wild Marjoram, Field Scabious *Knautia arvensis*, Hedge Bedstraw *Gallium mollugo*, Agrimony *Agrimonia eupatoria*, and Burnet Saxifrage *Pimpinella saxifrage*.

Details of boundary features

- 3.22 Hedgerow H1 runs parallel with the Andover Road (with a line of ornamental trees on the wide road verge, outside the site boundary). The hedgerow is tall bushy and untrimmed with young Sycamore and Norway Maple *Acer platanoides* trees and occasional Ash *Fraxinus excelsior* and Silver Birch *Betula pendula*. Constituent woody species include Dog Rose *Rosa canina*, Privet, Dogwood *Cornus sanguinea*, Guelder Rose *Viburnum opulus*, Spindle *Euonymus europaeus*, Blackthorn *Prunus spinosa*, Elder *Sambucus nigra*, English Elm *Ulmus procera*, Field Maple, Hawthorn, Buckthorn *Rhamnus cathartica*, Domestic Apple *Malus domestica*, and Bramble *Rubus fruticosus* agg.
- 3.23 Hedgerow H2 is a tall, bushy, untrimmed hedgerow with no standards running alongside Well House Lane; very gappy towards the eastern end. Woody species include Hawthorn (frequent), Dogwood, Elder,

- Beech, Privet, Buckthorn, Ash, Goat Willow *Salix caprea*, Dog Rose and Guelder Rose.
- 3.24 Hedgerow H3 is more of a scrub bank beside the road than a hedgerow. It consists of an incomplete line of bushes grading into scrub, over False Oat-grass *Arrhenatherum elatius*. Woody species include Beech (frequent), Hawthorn, Ash, Buckthorn, Bramble, Field Maple, Dogwood, Blackthorn and Elder.
- 3.25 Hedgerow H4 is a hedgeline consisting only of scattered Elder bushes.
- 3.26 Hedgerow H5 is a short, continuous bushy hedgerow, mainly comprising Hawthorn.
- 3.27 Hedgerow H6 is a very gappy hedgerow, dominated by Elder with occasional Hawthorn, and Dogwood. A small standard Walnut *Juglans regia* is present at the eastern end.
- 3.28 Hedgerow H7 comprises a very short section of tall hedgerow alongside the railway, with a mature Ash tree in the northern-most corner and other tall trees. Woody species include Ash, Sycamore, Hawthorn, Wild Rose *Rosa arvensis* and Common Lime *Tilia x vulgaris*.
- 3.29 Hedgerow H8 comprises a short, untrimmed, continuous hedgerow which adjoins scrub alongside the railway. One young Sycamore tree present; otherwise no standards. Woody species include Blackthorn, Elm, Hawthorn, Dog Rose, Dogwood, Elder, Goat Willow and Buckthorn.
- 3.30 Hedgerow H9 runs alongside the northern side of the Beech wood strip and tends to merge with it. The sides of the hedgerow are trimmed and the hedgerow is mainly continuous. Woody species include Beech, Ash, Blackthorn, Wych Elm *Ulmus glabra*, Hawthorn, Dogwood, Holly, Sycamore, Privet, and Field Rose.
- 3.31 Hedgerow H10 runs parallel with hedgerow H9 along the south side of the Beech wood and is similar. Woody species include Blackthorn, Wych Elm, Hawthorn, Holly, Spindle, Buckthorn, Sycamore, Privet and Field Rose.
- 3.32 Hedgerow H11 comprises a hedgerow with a line of semi-mature Copper Beech *Fagus sylvatica purpurea* trees planted along the southern side. Constituent species included Hawthorn, Blackthorn, Ash, Elder, Dogwood, Spindle, Sycamore, Privet, Rose and Bramble.
- 3.33 Hedgerow H12 comprises a species-rich hedgerow of Hawthorn, Blackthorn, Privet, Elder, Rose *Rosa* sp., Dogwood, Ash, Spindle, Bramble and Buckthorn. It includes two semi-mature trees: an Ash and a Common Whitebeam *Sorbus aria*.

- 3.34 Hedgerow H13 is species-poor and gappy, with sections dominated by Bramble. Constituent species include Hawthorn, Blackthorn, Sycamore, Elder, and Rose. No hedgerow trees were present.
- 3.35 Hedgerow H14 is a short, discontinuous garden edge hedgerow of Blackthorn, Hawthorn and Holly, with occasional mature Sycamore and young Ash.
- 3.36 Hedge/scrub bank H15 is a short length of discontinuous hedgerow/scrub, comprising Blackthorn, Elder, Wych Elm, Hawthorn, Dogwood, Dog Rose, and Privet, which runs alongside the railway and merges with railway scrub and woodland.
- 3.37 H16 is a continuous, untrimmed, tall, hedgerow running alongside the allotments, dominated by Hawthorn. Elder, Blackthorn, Ash, Dog Rose, and Holly also present. No standard trees are present.
- 3.38 Boundary H17 comprises discontinuous tall bushy hedgerow/scrub (Blackthorn, Hawthorn, Dogwood, Dog Rose, Privet, and Buckthorn), which merges with the railway scrub.
- 3.39 Hedgerow H18 is a short section of continuous hedgerow running along an embankment adjacent to the Council Yard. Constituent species include Ash, Blackthorn, Hawthorn, Dogwood, Yew, Dog Rose, Bramble Privet, Buckthorn, Sycamore and Wayfaring tree *Viburnum lantana*.
- 3.40 Hedgerow H19 is outside the site boundary; it is discontinuous and grades into a wooded embankment alongside the road. Constituent species include Ash, Blackthorn, Hawthorn, Dogwood, Buckthorn, Elder, Dog Rose *Rosa canina*, Bramble, and Sycamore.
- 3.41 Hedgerow H20 is outside the site boundary, and comprises a species-poor hedgerow along the edge of a garden.
- 3.42 Hedgerow H21 is a tall, continuous, hedgerow, dominated by Hawthorn but also comprising Blackthorn, Silver Birch, Buckthorn, Dog Rose, Elder and Bramble.
- 3.43 Hedgerow H22 is a tall, discontinuous, bushy hedgerow comprising Ash, Blackthorn, Hawthorn, Dogwood, Hazel *Corylus avellana*, Dog Rose, Elder, Privet and Spindle.
- 3.44 Hedgerow H23 is a relatively short, incomplete hedgerow with mature Beech and Sycamore at the northern end, grading to a much lower hedgerow moving south. Woody species include Blackthorn, Elder, Bramble, Wych Elm, Hawthorn, Privet; Norway Maple, Spindle, Common Lime, Beech and Sycamore.
- 3.45 Hedgerow H24 adjoins a mature woodland on an embankment alongside London Road. The sides of the hedgerow have been

trimmed and the hedgerow is very tall and continuous with Sycamore and Beech standards. Woody species include Blackthorn, Elm, Hawthorn, Dog Rose, Dogwood, Beech, Norway Maple, Common Lime, Elder, Bramble, Walnut, Field Maple, Pedunculate Oak *Quercus robur*, Privet, and Sycamore.

- 3.46 Hedgerow H25 is a fairly continuous untrimmed hedgerow, dominated by Hawthorn and Blackthorn. Other species include occasional Elder, Dog Rose and Privet.
- 3.47 Field boundaries B1 and B2 comprise a post and wire fence with occasional patches of Blackthorn, Privet and Hawthorn scrub. At the southern end of boundary T2 a small number of immature Sycamores are growing along the fenceline. Mature regularly spaced Sycamore standards are present along the road edge (outside the site boundary).
- 3.48 Field boundary B3 comprises a mix of trees and shrubs (mostly immature Beech trees, Elder and Leyland Cypress *x Cupressocyparis leylandii*) around Barton Farm (outside site boundary).
- 3.49 The southern boundary of field F1 (boundary B4) comprises a bank vegetated with a mix of scrub and tall ruderal vegetation with occasional immature and mature trees, along the edge of the gardens. Scrub species noted included Bramble, Elder, Hawthorn, Holly, Ash, and Snowberry *Symphoricarpos albus*. Ruderal vegetation was dominated by Nettle, Creeping Thistle and Spear Thistle, but other native and non-native species noted in this area included Lesser Burdock *Arctium minus*, Yarrow, White Dead-nettle, Great Mullein *Verbascum thapsus*, Hogweed *Heracleum sphondylium*, Creeping Buttercup, Broad-leaved Willowherb *Epilobium montanum*, Foxglove *Digitalis purpurea*, Honesty *Lunaria annua*, Columbine *Aquilegia vulgaris*, Garden Lady's Mantle *Alchemilla mollis*, Canadian Goldenrod *Solidago canadensis*, and Spotted Dead-nettle *Lamium maculatum*. Mature trees included Sycamore, Horse Chestnut *Aesculus hippocastanum*, and Ash.
- 3.50 Boundary B5 comprises a mix of woodland and scrub along the railway, behind a fence.
- 3.51 Boundary B6 is an open garden edge without a hedgerow.
- 3.52 Boundary B7 comprises a mix of woodland and scrub along the railway, behind a fence.
- 3.53 Boundary B8 comprises a line of widely spaced immature Beech trees.
- 3.54 Boundary B9 comprises a fringe of mature trees (Sycamore, Beech and Common Lime) and scrub adjoining garden.

- 3.55 Boundary B10 is an open garden edge without a hedgerow.

Protected species and/or species of conservation importance

Badgers

- 3.56 Although no Badger setts were found on site, Badger dung was found in four parts of the site (Target Note T6 on Figure 3.1). No fresh digging could be found to indicate recent Badger foraging or sett construction activity. The site provides potential foraging habitat and Badgers could construct setts within the hedgerows. Although the railway embankment may provide potential sett habitat for Badgers within 30m of the proposed housing development, no tracks were seen into the railway line which is rabbit fenced, making location of potential tracks relatively easy (as the Badgers would have to excavate under the fencing).

Bats

- 3.5.1 The majority of the site, comprising open arable fields, provides poor foraging habitat for bats but the hedgerows and tree lines provide foraging habitat and commuting routes. No buildings which could provide roosting habitat for bats were present on the site. Some of the mature trees within the woodland at Target Notes 8, 9, 10 11 could support roosting bats as they are sufficiently mature to have a number of cracks and crevices.

Dormice

- 3.57 The hedgerows are heavily managed and unlikely to provide habitat for Dormice. In addition, there are no records of Dormice in the local area and no significant areas of suitable habitat nearby which could provide source populations of Dormice to colonise the hedgerows.

Other mammals

- 3.58 The site was not considered to provide potential habitat for any other protected mammal species. However, Hedgehogs were reported on site (Dead animal marked as Target Note T4 on Figure 3.1) and Brown Hares have been seen previously on site, in 2002 (Clare FitzGibbon, pers. comm.). However, they were not sighted during this survey.

- 3.59 Roe Deer *Capreolus capreolus* were seen in various arable fields.

Reptiles

- 3.60 The majority of the site is considered unlikely to support reptiles, comprising arable fields which are cultivated close to the boundaries. However, there are some areas of rough grass, particularly around

the pony paddocks in the north of the site and along the railway line. These areas are the subject of a separate reptile survey

Amphibians

- 3.61 No ponds occur within the site boundary which could provide aquatic habitat for amphibians.

Birds

- 3.62 The intensive arable farming regime on most of the site renders it unlikely that the fields support significant bird populations of conservation importance, although the hedgerows are likely to be of value to a range of breeding and over-wintering species, and the areas of set-aside provide temporary foraging habitat for a number of farmland bird species. Hedgerows and small areas of woodland on site provide foraging and nesting opportunities for birds, and a Linnet *Carduelis cannabina* was seen singing from scrub along the railway line (Target Note T7 on Figure 3.1). Linnet is classified as a species of high conservation importance (BoCC Red list species). A separate bird survey has been carried out.

Invertebrates

- 3.63 The intensive arable farming regime on the site renders it unlikely to support significant populations of invertebrates of conservation importance, although the set-aside areas provide temporary habitat for a number of species. Common Blue Butterfly *Polyommatus icarus* was found within the set-aside present at the northern end of Field F5 (Target Note T1a on Figure 3.1).

Plants

- 3.64 Corn Marigold was found in an area of set-aside along the boundary of Field F8 (Target note T2 on Figure 3.1).

4 EVALUATION

Designated sites

- 4.1 No designated areas are included within the application site. However, there are two statutory sites within 2km of the application area, the River Itchen SSSI and the River Itchen SAC. There are also four non-statutory sites present within 2km of the application area, Royal Winchester Golf Course (Teg Down) SINC; Flowerdown SINC; St Swithun SINC; Headbourne Worthy and Easton Down SINC.

Habitats

- 4.2 All hedgerows are a habitat of principal importance for the conservation of biodiversity in England, listed on Section 41 of the NERC Act 2006. Under section 41(3) of the NERC Act the Secretary of State must take steps (where they are reasonably practicable), and promote the taking of steps by others, to further the conservation of the habitats and species on the list. Hedgerows are also a UK BAP priority habitat and identified as a priority habitat in the Hampshire Biodiversity Action Plan.
- 4.3 The hedgerows within the current application site boundary are in a similar condition to when they were surveyed in 2002 to determine whether they met the landscape and wildlife criteria for important hedgerows under the Hedgerow Regulations 1997 (Ecoscope, 2002a). Only hedgerow H11 (Ecoscope, 2002a) met the criteria for 'important hedgerow' under the Hedgerow Regulations, on account of supporting an average of four woody species in the sections surveyed, running along a footpath, having gaps of less than 10% in length and having connections with three hedgerows and two woodlands.
- 4.4 Hedgerows 1, 8, 9, 10, 12, 18 and 24 were also considered to be hedgerows of particular ecological value on account of their species diversity and associated features (Ecoscope, 2002a).
- 4.5 An area of species-rich calcareous grassland is present along the footpath boundary and hedgerow H18 of Field F7 (Target Note T3, Figure 3.1). Although the area of grassland is very small, calcareous grassland is a UK and local Biodiversity Action Plan (BAP) priority habitat; it is also a habitat of principal importance for the conservation of biodiversity in England, listed on Section 41 of the NERC Act 2006.
- 4.6 Arable field margins are a UK Biodiversity Action Plan (BAP) priority habitat and listed on Section 41 of the NERC Act 2006. These field margins refers to strips of land lying between cereal crops and the field boundary, and extending for a limited distance into the crop,

which are deliberately managed to create conditions which benefit key farmland species. The strips of set-aside, for example along the northern edge of field F9, would be included in this UK BAP priority habitat type. Arable land is a Hampshire BAP priority habitat.

- 4.7 Corn marigold was found in an area of set-aside along the boundary of Field F8 (Target Note T2, Figure 3.1). This species is classed as vulnerable (JNCC, 2008). In addition, White Helleborine *Cephalanthera damasonium* was previously located in the line of Beech trees to the north of Field F4 (Ecoscope, 2001). It was not re-found in this survey. This species is classified as Nationally Rare.
- 4.8 An area of set-aside present at the northern end of Field F5 (Target Note 1a on Figure. 3.1) contains species associated with calcareous grassland such as Field Scabious. Areas of set-aside are an important resource for biodiversity, particularly invertebrates. These set-aside areas could also provide foraging habitats for birds, reptiles, amphibians, bats and other mammals, such as Badgers.

Protected species and/or species of conservation importance

Mammals: Badgers

- 4.9 Badgers and their setts are protected under the Protection of Badgers Act 1992. This makes it a criminal offence to:
- Wilfully kill, injure, take, possess, or cruelly ill-treat a Badger, or attempt to;
 - to interfere with a sett by damaging or destroying it;
 - to obstruct access to, or any entrance of, a Badger sett; and
 - to disturb a Badger when it is occupying a sett.
- 4.10 A Badger sett is defined in the legislation as “any structure or place, which displays signs indicating current use, by a Badger”. A licence is required when development would affect an occupied Badger sett or will take place within 30m of construction work.
- 4.11 No evidence of Badgers was located during a previous survey of the site (Ecoscope, 2002b), but, although no Badger setts were found on site during this survey, Badger dung was found on the site. No fresh digging could be found to indicate recent Badger foraging or sett construction activity. The site provides potential foraging habitat and Badgers could construct setts within the hedgerows and woodland. A repeat survey to search for Badger setts is recommended prior to construction works commencing, if these are not begun within one year of the survey (September 2009), to check that new setts have not been created within 30m of construction work.

Mammals: Bats

- 4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the CRoW Act 2000. All British bats are also included on Schedule 2 of the Conservation (Natural Habitats etc.) Regulations 1994 as European Protected Species. Taken together, these pieces of legislation make it an offence to:
- intentionally kill, injure or capture bats;
 - deliberately or recklessly disturb bats (whether in a roost or not); and
 - damage, destroy or obstruct access to bat roosts.
- 4.12 A roost is defined as 'any structure or place which [a bat] uses for shelter or protection'. As bats tend to reuse the same roosts, legal opinion is that a roost is protected whether or not bats are present at the time of survey.
- 4.13 The mature trees within the site boundary could support roosting bats and further surveys are required to determine whether they do support roosting bats if any of the trees are to be felled.
- 4.14 The main features likely to be of value for foraging bats are the hedgerows and tree lines. A separate bat activity survey is currently being carried out to determine the level of bat activity on the site.

Mammals: other species

- 4.15 Both Hedgehog and Brown Hare are UK BAP priority species, and species of principal importance for the conservation of biodiversity in England, listed on Section 41 of the NERC Act, 2006.

Birds

- 4.16 The site is considered unlikely to support significant populations of any bird species of conservation importance. However, all birds, their nests and eggs are afforded protection under the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way (CRoW) Act 2000. It is an offence to:
- intentionally kill, injure or take any wild bird;
 - intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
 - intentionally take or destroy the egg of any wild bird.

- 4.17 Hedgerows and small areas of woodland on site provide foraging and nesting opportunities for birds, and a separate breeding bird survey is currently being carried out to determine the level of bird activity on the site.
- 4.3.2 The hedgerows and trees on site provide suitable nesting habitat for a variety of bird species. Any vegetation clearance required at the site should ideally be undertaken outside of the nesting season (early March to end August). If clearance works are to take place within the nesting season, an ecological clerk of works will need to check vegetation for the presence of nests prior to clearance. Vegetation cannot be cleared whilst any nest remains occupied; typically this may involve a delay of several weeks.

Reptiles

- 4.18 All native reptile species receive some degree of protection under the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way (CROW) Act 2000. Common or Viviparous Lizard, Slow worm, Adder and Grass snake are protected under sub-section 9 (1) and all of sub-section 9 (5) of the Wildlife and Countryside Act 1981, thus prohibiting the intentional/reckless killing and injuring as well as trade. A separate reptile survey is currently being carried out to determine whether reptiles are present on the site.

Invertebrates

- 4.19 The habitats considered to be of particular value to invertebrates are the mature trees, the more species-rich, mature hedgerows and the areas of setaside, on account of the abundance of flowering plants. Stag Beetles have been recorded in the locality. This species is generally found in broadleaved woodland, parks, other pasture woodland and gardens. The larvae live in the decaying wood of deciduous trees, often in roots and stumps. The amount of woodland and dead wood present on the site is probably insufficient to support it on site, but there is a possibility that it might occur within the mature woodland strip at Target Note 8 (Figure 3.1).

5 CONCLUSIONS

- 5.1 The majority of the site is considered to be of low ecological value, comprising intensively farmed arable fields. The permanent features of significant ecological value are the line of Beech and Ash trees at Target Note 8, and the mature trees at Target Notes 9, 10 and 11, which provide habitat for a range of species, the hedgerows, and the small area of calcareous grassland along boundary H18. The

hedgerows may act as wildlife corridors, enabling wildlife to disperse through the agricultural landscape, as well as providing habitat for a number of species groups. The areas of setaside provide valuable habitat for farmland birds and invertebrates in particular but by their nature are not permanent.

- 5.2 The site has changed little since the previous Phase 1 Habitat survey in 2001, except for the fact that some areas of intensively farmed arable habitat have been put down to setaside.
- 5.3 The site is considered unlikely to support significant populations of any protected wildlife species. The habitats on site have not changed significantly since the bat and breeding bird surveys were carried out and therefore the results of these surveys are still likely to be applicable to the current situation on the site. However, further bat activity and breeding bird surveys are being carried out to confirm this.

Recommendations

- 5.4 The following should be taken into account in the design of the development:
- (a) retain and enhance, through additional planting and suitable management, the hedgerows and associated trees both within the site and along the boundaries. The priorities for retention within the site boundary are the 'important' hedgerow, H11, the species-rich hedgerow H12, and the hedgerows that run along the woodland strip, H9 and H10. If hedgerows have to be removed, compensation should be implemented in the form of replacement hedgerow and scrub habitat within the site boundary.
- (b) retain the mature trees on site. If any mature trees are to be felled, they should be further evaluated for their potential to support bat roosts.
- (c) retain the strip of calcareous grassland along boundary H18.
- (d) create additional reptile habitat within the Public Open Space areas or along the boundaries of the site, particularly along the railway line, through the creation of rough grassland interspersed with native scrub.
- (e) any planting within the Public Open Space areas or along the boundaries of the site should comprise native species, providing additional habitat for wildlife. If possible, further areas of calcareous grassland should be created within the Public Open Space and managed appropriately in the long-term to minimise scrub encroachment and nutrient enrichment.

(f) any potential bird nesting habitat (trees, hedgerows and scrub) should be cleared outside of the bird breeding season (early March to August).

5.5 The following additional surveys may be required:

(a) a repeat survey to search for Badger setts is recommended prior to construction works commencing, if these are not begun within one year of the survey (September 2009), to check that new setts have not been created within 30m of construction work.

(b) if any mature trees are to be felled within the site boundary, they should be further evaluated for their potential to support bat roosts.

6 REFERENCES

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APPENDIX A. INFORMATION PROVIDED BY THE HAMPSHIRE BIODIVERSITY INFORMATION CENTRE

Table A1: List of notable invertebrate species recorded within 2km of the site

Scientific name	Vernacular name	Type of invertebrate	Most recent record	Grid ref.	Conservation status	UKBAP species	Wildlife & Countryside Act *
<i>Acleris shepherdana</i>		Moth	1991	SU4830	Notable/Nb		
<i>Apoda limacodes</i>	Festoon	Moth	2003	SU473300	Notable/Nb		
<i>Asindulum nigrum</i>		Fly	1999	SU488310	Red Data Book 2		
<i>Bembecia ichneumoniformis</i>	Six-belted Clearwing	Moth	1997	SU4829	Notable/Nb		
<i>Cephalops pannonicus</i>		Fly	1990	SU490308	Red Data Book 1		
<i>Cepphis advenaria</i>	Little Thorn	Moth	2001	SU473300	Notable/Nb		
<i>Cercyon convexiusculus</i>		Beetle	2000	SU48662982	Notable/Nb		
<i>Coenosia campestris</i>		Fly	1999	SU488310	Notable		
<i>Coleophora therinella</i>		Moth	1990	SU4630	Notable/Nb		
<i>Conistra rubiginea</i>	Dotted Chestnut	Moth	1991	SU465305	Notable/Nb		
<i>Conocephalus discolor</i>	Long-winged Conehead	Conehead	2001	SU490308	Notable/Na		
<i>Corymbia fulva</i>		Beetle	1986	SU4931	Red Data Book 3		
<i>Crociosema</i>		Moth	2003	SU473300	Notable/Na		

Scientific name	Vernacular name	Type of invertebrate	Most recent record	Grid ref.	Conservation status	UKBAP species	Wildlife & Countryside Act *
<i>plebejana</i>							
<i>Dorylomorpha hungarica</i>		Fly	1999	SU488310	Notable		
<i>Eilema sororcula</i>	Orange Footman	Moth	2003	SU473300	Local		
<i>Elaphria venustula</i>	Rosy Marbled	Moth	2002	SU473300	Notable/Nb		
<i>Ethmia dodecea</i>		Moth	2003	SU473300	Notable/Nb		
<i>Hamearis lucina</i>	Duke of Burgundy Fritillary	Butterfly	2000	SU465324	Notable/Nb		Schedule 5, Sect. 9, Part 5 only
<i>Hilara merula</i>		Fly	1990	SU491307	Red Data Book 1		
<i>Hilara quadriseta</i>		Fly	1990	SU491307	Red Data Book 3		
<i>Homoeosoma nebulella</i>		Moth	2003	SU473300	Notable/Nb		
<i>Homoneura tesquae</i>		Fly	1990	SU490308	Notable		
<i>Hydroglyphus geminus</i>		Beetle	2000	SU48662982	Notable/Nb		
<i>Hygrotus decoratus</i>		Beetle	2000	SU48662982	Notable/Nb		
<i>Lucanus cervus</i>	Stag Beetle	Beetle	1998	SU484296	Notable/Nb	BAP	Schedule 5, Sect. 9, Part 5 only
<i>Lysandra coridon</i>	Chalk-hill Blue	Butterfly	1999	SU468315			Schedule 5, Sect. 9, Part 5 only

Scientific name	Vernacular name	Type of invertebrate	Most recent record	Grid ref.	Conservation status	UKBAP species	Wildlife & Countryside Act *
<i>Metzneria aprilella</i>		Moth	2002	SU473300	Notable/Na		
<i>Nephopterix angustella</i>		Moth	2001	SU473300	Notable/Nb		
<i>Pammene fasciana</i>		Moth	2004	SU488310	Notable/Nb		
<i>Pareulype berberata</i>	Barberry Carpet	Moth	1990	SU480320	Red Data Book 1	BAP	Schedule 5 (full)
<i>Pisidium tenuilineatum</i>	Freshwater Pea Mussel	Mollusc	2002	SU486300		BAP	
<i>Psychoides fillicivora</i>		Moth	2002	SU473300	Notable/Nb		
<i>Satyrium w-album</i>	White Letter Hairstreak	Butterfly	2001	SU468315	Notable/Nb		Schedule 5, Sect. 9, Part 5 only
<i>Shargacucullia lychnitis</i>	Striped Lychnis	Moth	2003	SU478320	Notable/Na	BAP	
<i>Spatalistis bifasciana</i>		Moth	2002	SU473300	Notable/Nb		
<i>Speccafrons halophila</i>		Fly	1999	SU488310	Notable		
<i>Stigmella samiatella</i>		Moth	1992	SU4829	provisional Red Data Book 3		
<i>Synanthedon flaviventris</i>	Sallow Clearwing	Moth	2004	SU488310	Notable/Nb		
<i>Synanthedon formicaeformis</i>	Red-tipped Clearwing	Moth	2004	SU488310	Notable/Nb		
<i>Syneches muscarius</i>		Fly	1999	SU488310	Red Data Book 1		

Scientific name	Vernacular name	Type of invertebrate	Most recent record	Grid ref.	Conservation status	UKBAP species	Wildlife & Countryside Act *
<i>Vertigo moulinsiana</i>	Des Moulins' Whorl Snail	Mollusc	2000	SU48732988		BAP	
<i>Volucella inanis</i>		Hoverfly	1999	SU488310	Notable		

APPENDIX B: TARGET NOTES

Target Note 1: Areas of setaside.

Target Note 1a: Setaside with calcareous grassland species.

Target Note 2: Setaside with Corn Marigold.

Target Note 3: Narrow strip of species-rich calcareous grassland. The species composition of this grassland includes Greater Knapweed, Common Knapweed, Red Bartsia, Yarrow, Wild Marjoram, Field Scabious, Hedge Bedstraw, Agrimony, and Burnet Saxifrage.

Target Note 4: Dead Hedgehog.

Target Note 5: Common Blue Butterfly seen within setaside.

Target Note 6: Location of Badger dung.

Target Note 7: Linnet sighted.

Target Note 8: Line of mature Beech and Ash trees with Privet, Sycamore, Hawthorn and occasional Yew understorey. The trees could support bat roosts and provide valuable wildlife habitat.

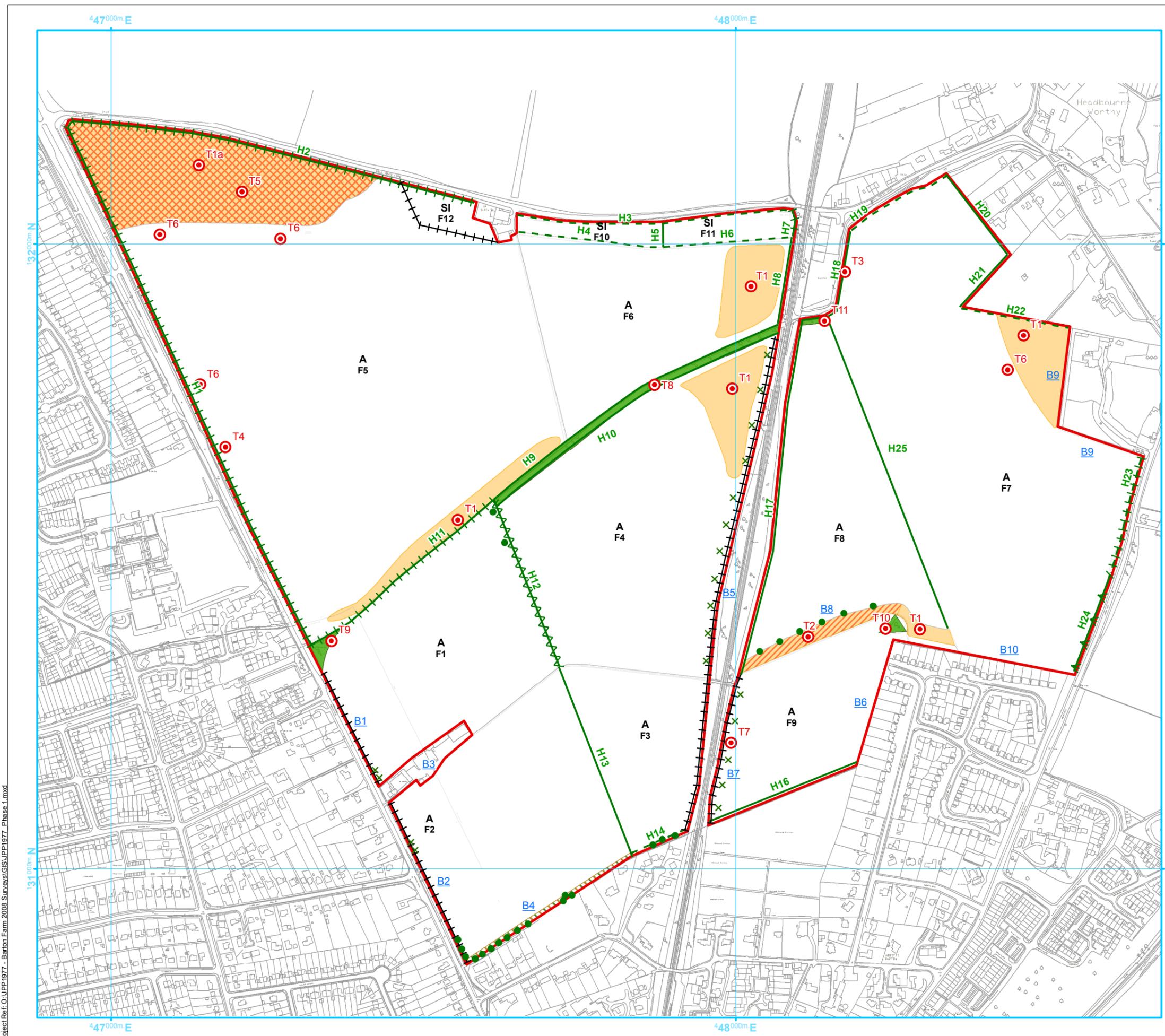
Target Note 9: Small patch of mature Beech and Sycamore trees, with an understorey dominated by Ivy; Field Maple, Holly, Hawthorn and Privet also present. The trees could support bat roosts and provide valuable wildlife habitat.

Target Note 10: Stand of mature Beech and Horse Chestnut trees. The trees could support bat roosts and provide valuable wildlife habitat.

Target Note 11: A small area of Beech woodland adjoining the northern boundary of Field F8 and the Council yard.

FIGURES

Figure 3.1: Barton Farm, Winchester: Phase 1 Habitat Survey 2008



- Legend**
- Site boundary
 - Semi-natural broad-leaved woodland
 - SI Species-poor semi-improved grassland
 - A Arable
 - Mix of tall ruderal and scattered scrub
 - Setaside
 - Setaside with calcareous grassland species
 - Setaside with corn marigold
 - Fence
 - Species-rich intact hedge
 - Species-poor intact hedge
 - Species-poor defunct hedge
 - Species-rich hedge with trees
 - Species-poor hedge with trees
 - Species-poor defunct hedge with trees
 - Scattered broad-leaved tree
 - x Scattered scrub
 - ⊙ Target note
 - H1 Hedgerow number
 - B1 Boundary number
 - F1 Field number

Rev:	Date:	Amendment:	Name:	Checked:
■ Data Source: RPS 2008 Status: FINAL				
<div style="background-color: #0056b3; color: white; padding: 5px; font-weight: bold; font-size: 18px; display: inline-block;">RPS</div> <small>Willow Mere House Compass Point Business Park Stocks Bridge Way St. Ives Cambridgeshire PE27 5JL T 01480 466335 F 01480 466911 E rpscm@rpsgroup.com</small>				
■ Client: Cala Homes (South) Ltd Project: Barton Farm				
Title: Phase 1 Habitat Map				
Scale: 1:6,000 @A3 				
Date: 30/09/2008 Datum: OSGB36 Projection: BNG Drawn: KM Checked: CF Job Ref: JPP1977				
■ Figure No: 3.1				Revision: A
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