



Landscape  
Architecture



Landscape  
Planning



Arboriculture



Ecology

## Phase 1 Habitat Survey

of

**Land off West Road,**

**Sawbridgeworth, Hertfordshire**

on behalf of

**Taylor Wimpey East Anglia**

**February 2014**

© JBA Consultancy Services Ltd. 2014

Service, value and innovation

The Black Barn, Hall Road, Lavenham, Suffolk CO10 9QX

tel: **01787 248216** fax: **01787 247264** email: [jamesblake@jba-landmarc.com](mailto:jamesblake@jba-landmarc.com)

**Chairman:** James Blake - BA (Hons) Dip LA (Hons) CMLI

**Company Secretary:** Louise Blake - BSc PGCE

**Directors:** Catherine Xavier - BA (Hons) Dip LA CMLI : Rachel Bodiam - BSc (Hons) Dip LA CMLI : Angie Mason

**Associate Directors:** Dawn Purves - BA (Hons) Arch Dip LA MA SPUD CMLI : Vivienne Jackson

**[www.jba-landmarc.com](http://www.jba-landmarc.com)**

Registration no. 8169866 VAT no. 512 4127 91

Revision	Purpose	Originated	Checked	Authorised	Date
		JBo	ER	MD	02/2014
<b>Job Number:</b> JBA 14/11		<b>Title:</b> Phase 1 Habitat Survey of Land off West Road, Sawbridgeworth, Hertfordshire			 JBA Consultancy Services Ltd

#### ***Disclaimer***

*JBA Consultancy Services Ltd. have made every effort to meet the client's brief. However, no survey ensures complete and absolute assessment of the changeable natural environment. The findings in this report were based on evidence from thorough survey: It is important to remember that evidence can be limited, hard to detect or concealed by site use and disturbance. When it is stated that no evidence was found or was evident at that point in time, it does not mean that species are not present or could not be present at a later date: The survey was required because habitats are suitable for a given protected species, and such species could colonise areas following completion of the survey.*

*This report was instructed by Taylor Wimpey East Anglia. Neither JBA Consultancy Services Ltd. nor any associated company, nor any of their employees, nor any of their contractors, subcontractors or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or any third party's use of the report.*

**© JBA Consultancy Services Ltd 2014** (Copyright of this report remains with JBA Consultancy Services Ltd:  
*Content must not be reproduced, in whole or part, without formal written consent*)

## CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>5</b>
<b>2</b>	<b>METHODS.....</b>	<b>7</b>
	Desk study.....	7
	Phase 1 Habitat Survey .....	7
<b>3</b>	<b>RESULTS .....</b>	<b>10</b>
<b>4</b>	<b>PROTECTED SPECIES – RESULTS AND EVALUATION .....</b>	<b>26</b>
<b>5</b>	<b>KEY RECOMMENDATIONS, FURTHER SURVEYS AND PRECAUTIONARY METHODS.....</b>	<b>31</b>
<b>6</b>	<b>ENHANCEMENT RECOMMENDATIONS .....</b>	<b>32</b>
<b>7</b>	<b>CONCLUSION.....</b>	<b>33</b>
<b>8</b>	<b>REFERENCES .....</b>	<b>34</b>
<b>9</b>	<b>APPENDICES .....</b>	<b>36</b>
	<b>Appendix A:</b> Phase 1 habitat map .....	<b>36</b>
	<b>Appendix B:</b> Plant species list .....	<b>37</b>
	<b>Appendix C:</b> Confidential Protected Species Records (Removed) .....	<b>39</b>
	<b>Appendix D:</b> Relevant protected species legislation .....	<b>39</b>

## Non-technical Summary

<b>Site:</b>	West Road, Sawbridgeworth, Hertfordshire
Grid Reference (from the centre of the site)	TL 478 155
Report Commissioned by:	Taylor Wimpey East Anglia
Date of Survey:	31 <sup>st</sup> January 2014

Considerations	Description	Timings and potential impacts
Statutory and non-statutory sites within 2km:	Eleven Local Wildlife Sites, many of which were associated with the River Stort and surrounding habitats	No impacts to any statutory or non-statutory sites are predicted
SPA, SAC and Ramsar sites within 7km:	There are no SPAs, SACs or Ramsar sites within 7km of the site.	N/a
Phase 2 surveys:	Breeding Bird surveys	April to June
Phase 2 survey which may be needed (dependent on final layout):	Water vole surveys	Optimal time – March to September
Precautionary measures:	Precautionary strimming of potential reptile habitat Removal of arable vegetation, trees and hedgerows	March-September (weather dependent) Outside of the nesting bird season (March to September) or following a nesting bird survey.
Habitat types:	Arable land, grass margins, hedgerows, trees, partially wet ditches	

## 1 Introduction

### Background

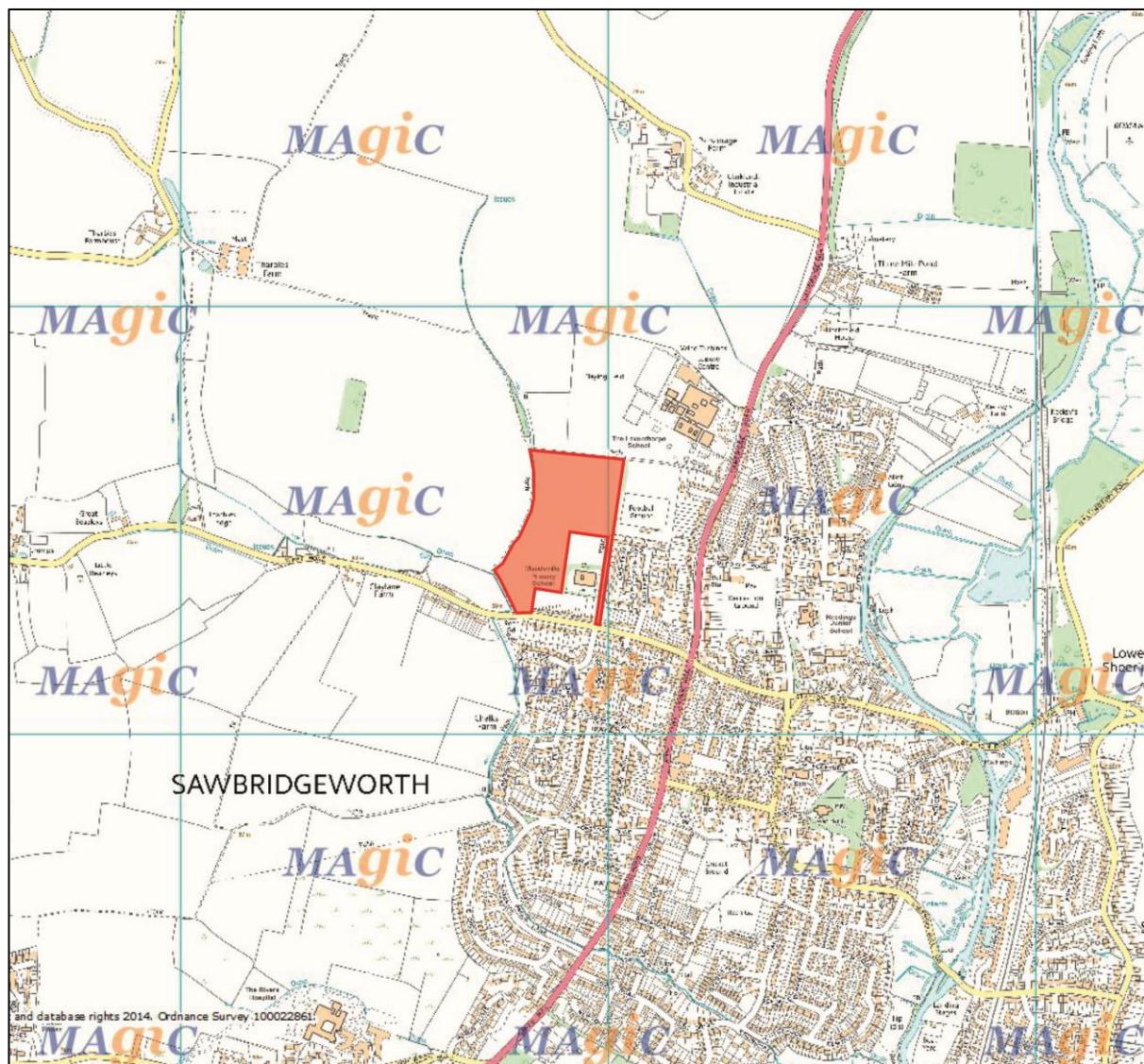
- 1.1 JBA Consultancy Services Ltd were commissioned by Taylor Wimpey East Anglia to undertake a Phase 1 Habitat Survey and Protected Species Scoping Survey of land off West Road, Sawbridgeworth, Essex (grid ref TL 478 155), taken from the centre of the site).
- 1.2 The assessment was required to accompany a planning application to develop the site: Residential housing with associated infrastructure is proposed.
- 1.3 For the purposes of this report, protected species are taken to be those which are protected under European Legislation (Conservation of Habitats and Species Regulations 2010, as amended) and UK legislation (Wildlife and Countryside Act 1981; Protection of Badgers Act 1992); and other priority species and habitats which are a consideration under the National Planning Policy Framework (NPPF) 2012, placing responsibility on Local Planning Authorities to aim to conserve and enhance biodiversity and to encourage biodiversity in and around developments. There is a general biodiversity duty in the NERC Act (Section 40) which requires every public body in the exercising of its functions to 'have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity'. Biodiversity, as covered by the Section 40 duty, includes all biodiversity, not just the habitats and species of principal importance. However, there is an expectation that public bodies would refer to the S41 list when complying with the Section 40 duty.

### Site Description

- 1.4 The site was located to the north of West Road, to the west of the town of Sawbridgeworth, Hertfordshire. The site was bordered to the west by arable fields, which dominated the wider landscape to the west and north. Adjacent to the northern and north eastern boundaries were sports pitches, a primary school and residential houses. To the south and east were residential areas of the town of Sawbridgeworth. Beyond the town to the east was the River Stort, along the length of which were numerous wooded areas (see Figure 1 below).
- 1.5 The site itself was an arable field sown with a cereal crop, with a grass margin ranging approximately 1-5m in width. A partially wet ditch was present along the western boundary, which held more water to the north due to being diverted to an

adjacent ditch approximately halfway down the length of the site. Outgrown, native hedgerows were present to the eastern and western boundaries and a mature tree line and well managed hedgerow bordered the site to the north. An access track was present along the western boundary, adjacent to which were areas of scrub.

**Figure 1:** Site location



Reproduced from MAGIC. Nature on the Map

## Aims and objectives

1.6 The aim of the survey was to:

- Identify the presence, or potential presence, of any protected or notable species or habitats on, or adjacent to, the site;
- assess the potential impact of the proposed works on any protected or notable species and/or habitats present including nature conservation sites on, or adjacent to, the site;
- make recommendations for further surveys and/or mitigation following the survey (if necessary) and provide suggestions to enhance the wildlife value of the site post-development.

## 2 Methods

### Desk study

- 2.1 A 2km radius search for statutory designated sites, excluding Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites, either on the proposed development site or in the surrounding area, was conducted using “MAGIC”, the Multi-Agency Geographic Information system for the Countryside.
- 2.2 A 7km search for SACs, SPAs and Ramsar sites was also conducted using MAGIC.
- 2.3 The Hertfordshire Environmental Records Centre (HERC) was consulted for records of non-statutory sites and protected and rare species within a 2km search radius (HERC data provided on the 3<sup>rd</sup> February 2014).
- 2.4 The site is covered by the Local Biodiversity Action Plan (BAP) for Hertfordshire (<http://www.hertsdirect.org/docs/pdf/a/cdlp372>).

### Phase 1 Habitat Survey

- 2.5 The survey was undertaken by Ellie Rickman BSc (Hons) MSc Grad CIEEM (dormouse class licence WML-CL10A) and James Booty BSc (Hons) Grad CIEEM (great crested newt licence class licence WML-CL08), on the 31<sup>st</sup> of January 2014. During the survey, the temperature was 7°C, there was a light breeze (Beaufort scale 2), 98% cloud cover and average visibility. A light shower occurred during the survey.

- 2.6 The survey methodology followed JNCC (Joint Nature Conservation Committee) Guidelines (JNCC, 2010) and included mapping habitat types and identifying all plant species observed on the site, including Wildlife and Countryside Act Schedule 9 invasive plant species such as Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum*.
- 2.7 The site was also assessed for signs and evidence of protected, priority and rare species in accordance with approved guidelines, as follows:
- 2.8 **Amphibians:** all known ponds within 500m of the site (unless ecologically separated from the site by significant barriers, such as major roads or rivers) were assessed for potential to support breeding protected amphibians, such as great crested newts. A Habitat Suitability Index for breeding great crested newts was undertaken on all suitable water bodies.
- 2.9 **Bats:** Mature trees within the site boundary, and adjacent to the site boundary, were surveyed externally, from the ground, for their potential to support roosting bats, under the following criteria.

**Table 1: Bat survey protocol for trees:** (potential bat roosting features were identified in order to categorise trees, as below):

Bat Roost Potential	Field signs
<b>Roost Confirmed</b>	Confirmed bat roost in tree: field evidence of the past or current presence of bats, e.g. droppings, staining.
<b>High</b> roost potential	Splits or cracks in major limbs which develop upwards, smooth surface around entry point, dense ivy-covering, woodpecker/rot holes, significant lifting bark, artificial bird or bat boxes. Ancient or over mature trees where the canopy cannot be fully inspected from the ground.
<b>Medium</b> roost potential	Splits in branches, dense ivy-covering, small cavities, dense epicormic growth, flies around entry point.
<b>Low</b> roost potential	Splits in minor branches, sparse ivy, limited loose bark. Young, healthy tree with good visibility to the top of the canopy.
<b>No</b> roost potential	Trees with a negligible potential to support bat roosts (not supporting any of the above features).

- 2.10 **Dormice:** A visual survey for the presence of suitable habitat (woodland/suitable hedges with good under-storey/shrub layer and a range of food plant species, such as hazel, bramble and honeysuckle) was carried out, to assess whether dormice were likely to be present.
- 2.11 **Reptiles:** A visual survey for the presence of suitable habitat was carried out according to the criteria given in the Herpetofauna Workers' Manual (Gent and Gibson, 1998).
- 2.12 **Otters and water voles:** a visual appraisal of all water bodies was carried out, to assess suitability to support these species, including: size and flow of water course; shape and vegetation cover/structure of the banks.
- 2.13 **Invertebrates:** The site was scoped for significant rotting deadwood, and high quality aquatic or other habitats which could be used by significant assemblages of invertebrates, or by any of the invertebrates highlighted in the data search. All water bodies/courses were assessed for potential to support white-clawed crayfish.
- 2.14 **Flora and habitats:** All habitats and plant species which were identifiable at the time of the survey were recorded.
- 2.15 **Badgers:** A visual survey for setts, hair, latrines, prints, snuffle marks or other signs of badgers was undertaken within the site boundary.
- 2.16 **Birds:** A visual survey of bird activity and suitable nesting habitat was carried out, to determine if any areas would be suitable for WCA Schedule 1 birds, Birds of Conservation Concern or other common and widespread nesting birds.
- 2.17 **Adjacent Habitat:** Habitats close to the site were identified, using aerial maps and field observation, so that the ecological impact of the proposed works on the wider landscape could be assessed.

### 3 Results

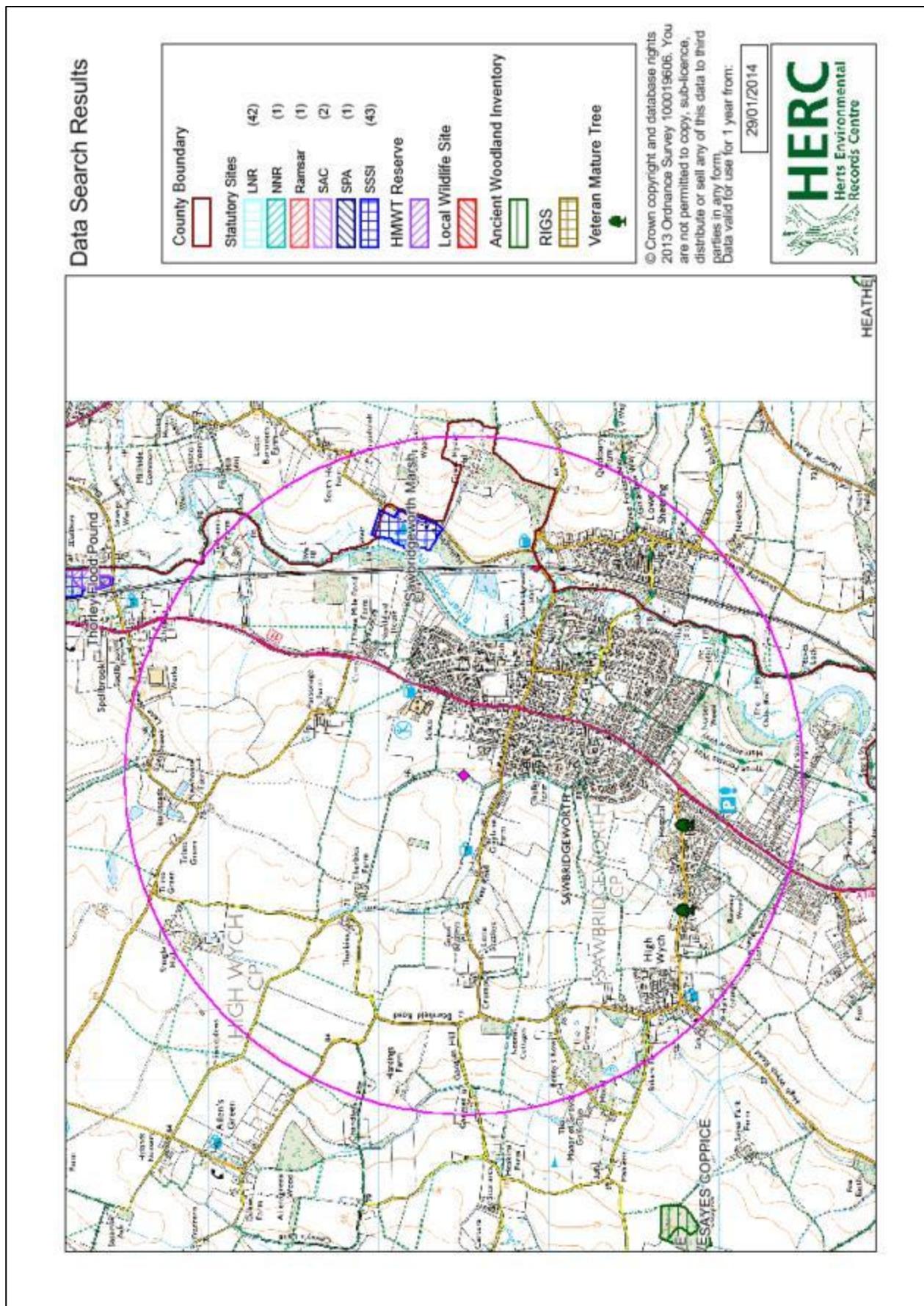
#### Desk Study

*Statutory Nature Conservation Sites within 2km of the site, excluding Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites*

- 3.1 There was one statutory designated site within 2km of the site: Sawbridgeworth Marsh Site of Special Scientific Interest (SSSI). This is detailed in Table 2 and shown in Figure 2.

**Table 2:** Statutory conservation sites within 2km

Site Name	Designation	Distance from site	Description
Sawbridgeworth Marsh	SSSI	1340	One of the few remaining intact river valley marshes in Hertfordshire. The neutral alluvium of the River Stort's narrow flood plain here supports a diverse wetland flora. The habitat grades from reed bed and tall mixed fen communities through acid marshy grassland, to neutral grassland. The flora, support an important invertebrate fauna.

**Figure 2:** Statutory conservation sites within 2km of the site.

*Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites within 7km of the site.*

- 3.2 No SPAs, SACs or Ramsar sites were identified within 7km of the site boundary.

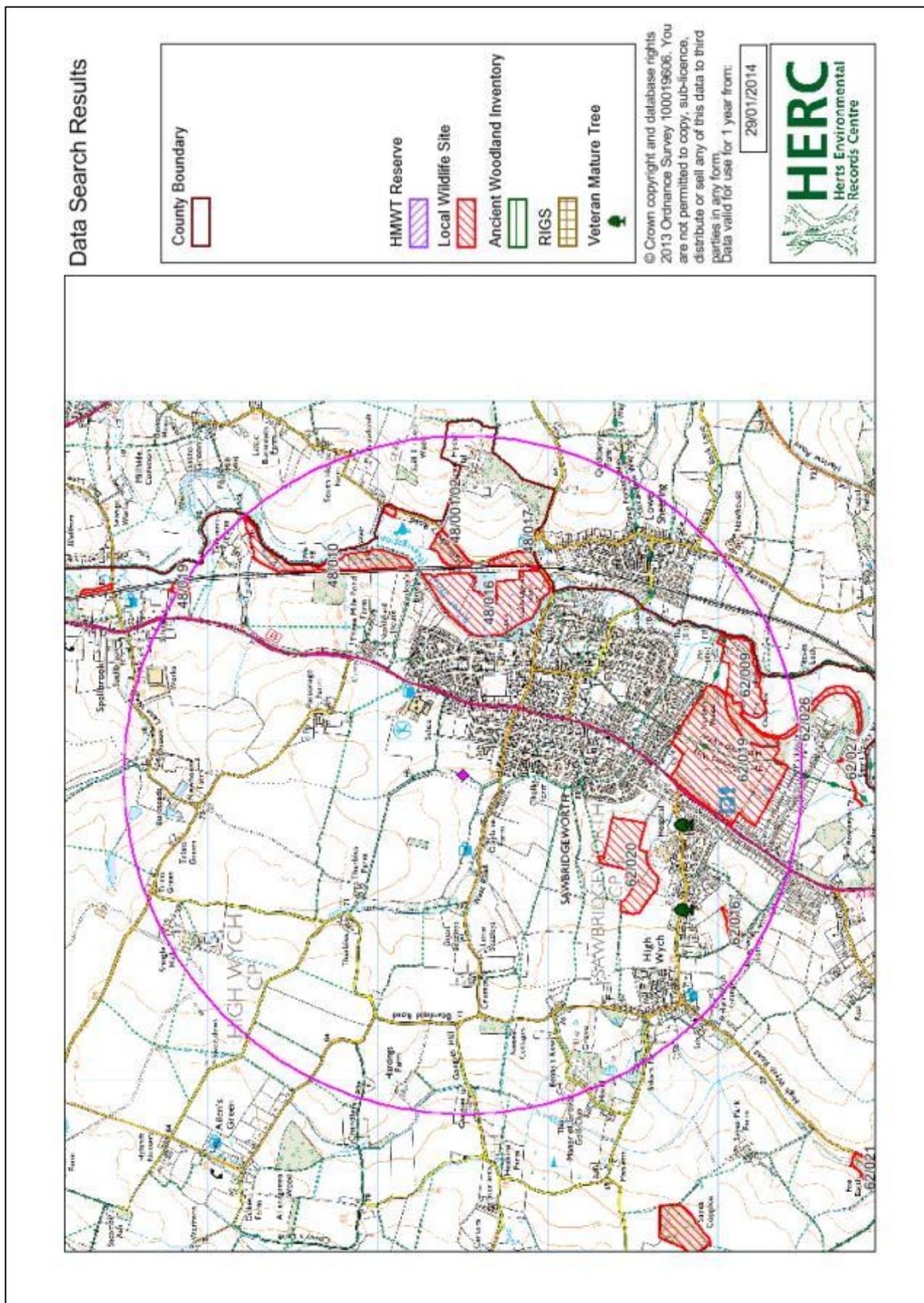
*Non-Statutory Nature Conservation Sites*

- 3.3 There were 11 non-statutory conservation sites within 2km of the site, all of which were local wildlife sites. These are detailed in Table 3 and shown in Figure 3.

**Table 3:** Non-statutory conservation sites within 2km of the site

Site Name	Distance from site	Description
Sawbridgeworth Marsh South & North East	1.2km east	This site has been left as a result of removing SSSIs from Wildlife Sites. It will be reviewed once survey data and a site assessment have been carried out. Wildlife Site criteria: Buffers an SSSI.
Tednambury Meadows	1.2km north east	A complex of unimproved, wet, neutral grassland with areas of marsh, tall fen, raised, dry disturbed grassland, scrub and areas of dry and wet broadleaved woodland. The site supports a diverse assemblage of plants including many indicator species. Wildlife Site criteria: Grassland indicators; fen and swamp indicators.
Sawbridgeworth Meadows	0.8km east	A large area of old neutral grassland, of varying wetness, along the Stort valley. The grassland is generally rank and contains uneven tussocky ground with areas of scrub, marsh and swamp, and a network of ditches partly lined with crack willow ( <i>Salix fragilis</i> ) and shrubs. Relict meadow species are also present. The ditches and the River Stort, which flows through part of the site, support tall marginal fen/swamp species and some aquatics. Two large black poplars ( <i>Populus nigra</i> ) are present beside the river. Water vole ( <i>Arvicola amphibius</i> ) and harvest mouse ( <i>Micromys minutus</i> ) have been recorded on the site. Wildlife Site criteria: Grassland indicators; fen and swamp indicators.
Scrub E. of Railway, Sawbridgeworth	1.2km east	Area of mixed species scrub with rank grassland in the north and remnant rank tall fen vegetation in the south with some crack willow. The northern area of grassland is now partly occupied by a car park and supports common grasses and herbs, particularly of disturbed ground. The wet habitat in the south is dominated by large sedges ( <i>Carex sp.</i> ). A ditch runs alongside the railway to the west and a hedgerow borders the road in the east. Wildlife Site criteria: Fen and swamp indicators.
Meadow S. of Spellbrook	1.9km north east	Marsh and tall swamp habitat with some scrub and much planted willow, including goat willow ( <i>Salix caprea</i> ), cricket-bat willow ( <i>S. alba var. caerulea</i> ) and white willow ( <i>S. alba</i> ). A ditch crosses the site and substantial mixed species hedgerows and ditches occur to the boundary in places. Wildlife Site criteria: Fen and swamp indicators.

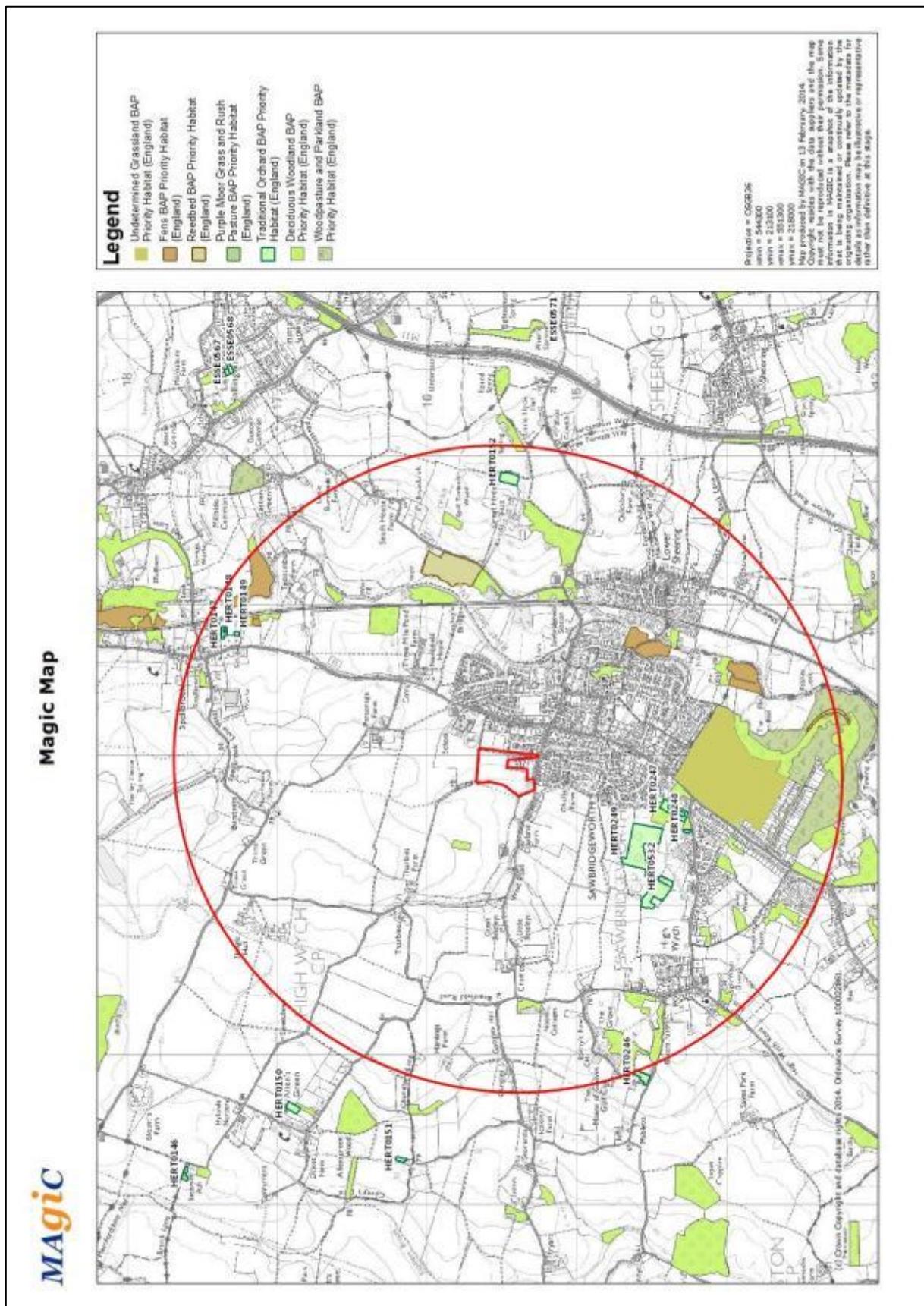
Pishiobury Park	1.2km south	Parkland (probable a former Deer Park) with a pasture-woodland structure and elements of herb-rich grassland. Although the grassland shows some signs of improvement, extensive areas of unimproved neutral to calcareous grassland communities still persist. The parkland is crossed by a network of hedgerows dominated by hawthorn with the occasional ash. Nursery Wood in the north-east is a mixed open pedunculate oak ( <i>Quercus robur</i> ), ash and field maple woodland. A spring and small pond add further habitat diversity. Wildlife Site criteria: Grassland indicators.
Stort Meads	1.6km south	A series of alluvial damp to marshy semi-improved grasslands alongside the River Stort and Stort Navigation. The grasslands are bordered in part by lines of old crack willow with rarer pedunculate oak, ash, hawthorn and poplar. Numerous ditches supporting marshy marginal vegetation and fen cross the site. The wettest areas support much Lesser Pond-sedge ( <i>Carex acutiformis</i> ). The area is important for riparian mammals with both water vole and otter recorded in the area. Wildlife Site criteria: Grassland indicators.
Rowney Wood (High Wych)	1.7km south west	Old semi-natural, possibly ancient, coppice of Hornbeam ( <i>Carpinus betulus</i> ) and Ash ( <i>Fraxinus excelsior</i> ) with Small-leaved Elm ( <i>Ulmus minor</i> ), Field Maple ( <i>Acer campestre</i> ) and Hazel ( <i>Corylus avellana</i> ) in the sub-canopy. Wood banks are present in places to the margin. Wildlife Site criteria: Ancient Woodland Inventory site with a semi-natural canopy and field evidence suggesting an ancient origin; woodland indicators.
The Osier Bed, Pishiobury Park	1.6km south	Old alder ( <i>Alnus glutinosa</i> ) wood/plantation which is wet below, particularly towards the River Stort and along numerous internal drains. The eastern edge, by the river, supports tall herb, swamp and willow scrub. Wildlife Site criteria: Fen and swamp indicators.
Rivers Nursery	0.9km south west	A former nursery site supporting a mosaic of habitats including semi-improved neutral grassland, scrub and old orchard trees. The grassland is reasonably diverse and supports a number of indicator species. The orchard to the west also has a good grassland flora. Large numbers of Bee Orchid ( <i>Ophrys apifera</i> ) have been recorded. Wildlife Site criteria: Grassland indicators.
River Stort Pishiobury Meander	1.7km south	A widened, meandering section of a River Stort back channel with records for Otter. Wildlife Site criteria: Species.

**Figure 3:** Non-statutory sites within 2km

### *Habitat Types within 2km*

- 3.4 Habitat types within the area included undetermined grassland, fens, reedbed, purple moor grass and rush pasture, traditional orchard, deciduous woodland and woodpasture and parkland. Other areas of woodland were also present. The nearest of these was a copse of deciduous woodland in the adjacent arable field approximately 700m from the site boundary. Fens and reedbeds were associated with the River Stort, the closest of which were approximately 1.2km east beyond the town of Sawbridgeworth. Undetermined grassland was approximately 1km south, also separated from the site by the town (see Figure 4 below).

**Figure 4:** Habitat types within 2km



### Protected, priority and rare species

- 3.5 The Birds of Conservation Concern (BoCC) are split into three criteria. The red list is the highest conservation priority (species needing urgent action). The amber list is the next most critical group, followed by green. Red listed species are those that are globally threatened according to IUCN criteria, species with populations or ranges that have declined rapidly in recent years, and those that have declined historically and have not shown a substantial recent recovery.
- 3.6 Full lists of UK Priority and protected amphibians, reptiles and mammals and flora are shown below. A reduced list of UK priority and protected birds and invertebrates is shown; these have been selected based on their likelihood of being recorded at the site given the habitats types present.

Birds	Protection	Approximate distance from site	Year of Record
Wryneck	BoCC red list, WCA Schedule 1, UK BAP	1.2km east	1970
Fieldfare	WCA Schedule 1	1.2km east	1973
Redwing	BoCC red list	1.2km east	1978
Cetti's warbler	WCA Schedule 1	1.3km south	2009
Kingfisher	WCA Schedule 1	1.2km east	1973
Tree sparrow	BoCC red list, LBAP	1.2km east	1972
House sparrow	BoCC red list, UK BAP	1.2km east	1972
Spotted flycatcher	BoCC red list, UK BAP	600m east	2009
Yellowhammer	BoCC red list, UK BAP	1.5km north east	2009
Skylark	BoCC red list, UK BAP	Adjacent 2km square to the west	2010
Grey Partridge	BoCC red list, UK BAP	1.2km east	1971
Cuckoo	BoCC red list, UK BAP	1.2km east	2002
Lapwing	BoCC red list, UK BAP	1.2km east	1971
Song thrush	BoCC red list, UK BAP, LBAP	Adjacent 2km square to the east	2010
Starling	BoCC red list	1.2km east	1973
Dunnock	BoCC amber list, UK BAP	1.1km east	2009
Yellow wagtail	BoCC red list, UK BAP	1.7km north	2003
Bullfinch	UK BAP	1km east	2010
Twite	BoCC red list, UK BAP	1.2km east	2003
Linnet	BoCC red list	Adjacent 2km square to the west	2010
Corn bunting	BoCC red list, UK BAP	Adjacent 2km square	2003

<b>Plants</b>	<b>British Red Data List Category</b>	<b>Approximate distance from site</b>	<b>Year of Record</b>
Butcher's broom ( <i>Ruscus aculeatus</i> )	Least concern	1km south	1989
Bluebell ( <i>Hyacinthoides non-scripta</i> )	Least concern	1.2km east	1974
		Same 10km square	1999
Greater water-parsnip ( <i>Sium latifolium</i> )	Endangered	1.2km east	1974
Tubular water-dropwort ( <i>Oenanthe fistulosa</i> )	Vulnerable	1km north east	1990
Galingale ( <i>Cyperus longus</i> )	Near threatened	850m east	1991
Dwarf spurge ( <i>Euphorbia exigua</i> )	Near threatened	Adjacent 2km square	1991
Oak-leaved goosefoot ( <i>henopodium glaucum</i> )	Vulnerable	1.3km west	1989
Alder buckthorn ( <i>Frangula alnus</i> )	Least concern	1.2km east	1974
Small flowering buttercup ( <i>Ranunculus parviflorus</i> )	Least concern	1.1km south	1989
Marsh willowherb ( <i>Epilobium palustre</i> )	Least concern	1.2km east	1974
Perfoliate pondweed ( <i>Potamogeton perfoliatus</i> )	Least concern	1.1km east	1989
Shining pondweed ( <i>Potamogeton lucens</i> )	Least concern	1.1km east	2003

<b>Mammals</b>	<b>Protection</b>	<b>Approximate distance from site</b>	<b>Year of Record</b>
Badger	Confidential Badger Records can be found in Appendix C		
Water vole	WCA Schedule 5, UK BAP, LBAP	950m east	1998
		1.5km south	1999
Otter	European protected UK BAP, LBAP		
Harvest mouse	UK BAP		
Brown long-eared	European protected, UK BAP		
Whiskered bat	European protected		
Noctule bat	European protected, UK BAP		
Leisler's bat	European protected	2km west	2004
		Same 10km square	2005

Natterer's bat	European protected, LBAP	1.7km north	2000
Common pipistrelle	European protected	1.7km south	2004
Soprano pipistrelle	European protected, UKBAP	1.5km north	2004
		Same 2km square	2005
Daubenton's bat	European protected	1.6km north west	1997

Invertebrates	Protection	Approximate distance from site	Year of Record
Wall butterfly	UKBAP	1.1km east	1985
Small heath	UK BAP	1.5km south	1997
White-letter hairstreak	UK BAP	1.4km south	2009
		400m north east	2006

Amphibians	Protection	Approximate distance from site	Year of Record
Toad	UKBAP	1.2km east	1971

Reptiles	Protection	Approximate distance from site	Year of Record
Grass snake	Partially protected under the WCA Schedule 5	1.3km south	2001
		800m east	1999
		1.6km south	2011
		560m east	2005
Common lizard			

WCA = Wildlife and Countryside Act 1981 as amended; UK BAP = UK Biodiversity Action Plan;  
 LBAP = Local Biodiversity Action Plan; BoCC = Birds of Conservation Concern

## Phase 1 Habitat Survey

- 3.7 Appendix A shows a Phase 1 habitat map of the site, with Target Notes. A list of plant species identified on the site is included in Appendix B.

### Limitations and Assumptions

- 3.8 The baseline conditions reported and assessed in this document represent those identified at the time of the survey on the 21<sup>st</sup> January 2014. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed. The full plant species list (Appendix B) was based on the current site visit. The survey was conducted in January, which is outside the optimal season for Phase 1 habitat surveys, however given the habitat types present at the site this is not considered to be a constraint to the survey. All areas of the site were accessible on the day of the survey.

The desk study used available records and historical data from the local area. However, this does not provide a reliable indication of species present since records depend entirely on survey effort in the area, which is highly variable. The data are useful as a general guide to supplement the site visit, but absence of records does not reflect absence of species.

### Target Notes

Target Note	Habitat description	Photo
1	<p>An arable field which was sown with a winter cereal crop, remnant rapeseed (<i>Brassica napus</i>) was also occasional. Arable 'weeds' included dove's-foot crane's-bill (<i>Geranium molle</i>), cleavers (<i>Galium aparine</i>), field speedwell (<i>Veronica persica</i>) and common chickweed (<i>Stellaria media</i>). Rough grassland field margins ranged between approximately 1m and 5m in width, species including Yorkshire fog (<i>Holcus lanatus</i>), cocks foot (<i>Dactylis glomerata</i>), perennial ryegrass (<i>Lolium perenne</i>), cow parsley (<i>Anthriscus sylvestris</i>), nettle (<i>Urtica dioica</i>) and cleavers (<i>Galium aparine</i>).</p>	

2	<p>An outgrown hedge along a partially wet ditch at the southern end of the western boundary contained species including hazel (<i>Corylus avellana</i>), bramble (<i>Rubus fruticosus</i>), field maple (<i>Acer campestre</i>), spindle (<i>Euonymus europaeus</i>) and ivy (<i>Hedera helix</i>). Ground flora included lords and ladies (<i>Arum maculatum</i>), cow parsley (<i>Anthriscus sylvestris</i>), nettle (<i>Urtica dioica</i>) and bluebell (<i>Hyacinthoides non-scripta</i>).</p>	
3	<p>A drainage ditch with rippled flow was approximately 5m outside the site boundary along the southern end of the western boundary. Banks were approximately 2.5m high with 45° slope. Substrate was gravel and pebble. Bank vegetation included pendulous sedge (<i>Carex pendula</i>), willow (<i>Salix sp.</i>), ground ivy (<i>Glechoma hederacea</i>), hawthorn (<i>Crataegus monogyna</i>) and elder (<i>Samubucus nigra</i>).</p>	
4	<p>A mammal track was recorded at the southern end of the western boundary.</p>	

5	<p>A ditch with herbaceous fen vegetation at the end of the hedgerow at Target Note 2. Species included great willowherb (<i>Epilobium hirsutum</i>), meadowsweet (<i>Filipendula ulmaria</i>), lesser celandine (<i>Ranunculus ficaria</i>), water forget-me-not (<i>Myosotis scorpioides</i>) and coarse grasses.</p>	
6	<p>A wet ditch with rippled flow along the site boundary, beyond an approximately 2m wide grass margin, fed the ditch at Target Note 3 via a culvert – flowing underground for approximately 10 metres. Banks were approximately 1m high and 25° and included fen herbs (see target Note 5), red dead nettle (<i>Lamium purpureum</i>), cow parsley, and water figwort (<i>Scrophularia auriculata</i>). Shrubs along the banks included elder, blackthorn (<i>Prunus spinosa</i>) and goat willow (<i>Salix caprea</i>). The field margin became wider further north, to approximately 3m.</p>	
7	<p>A gappy, unmanaged hedgerow along mid-section of the western boundary contained blackthorn, bramble, spindle, ivy, elder and hazel. A semi-mature sycamore (<i>Acer pseudoplatanus</i>) was present on the far bank.</p>	

8a	<p>The western half of the northern boundary was a chainlink fence adjacent to a margin approximately 1m wide. Beyond this was a well used footpath approximately 3m wide, a line of semi-mature poplar (<i>Populus sp.</i>) and hedge dominated by hawthorn was approximately 2m wide and 4m tall.</p>	
8b	<p>To the east of the northern boundary the tree line stopped. The hedgerow was well managed, approximately 2.5m tall and 1m wide containing hawthorn, dogwood (<i>Cornus sanguinea</i>) and privet (<i>Ligustrum sp.</i>).</p>	
9	<p>The north eastern boundary was a weld-mesh fence beyond a margin which was approximately 4m wide and well worn. An off-site tree line/buffer strip (more dense to the north) along the boundary included ash (<i>Fraxinus excelsior</i>), blackthorn, hawthorn, dog rose (<i>Rosa canina</i>), and apple (<i>Malus sp.</i>).</p>	

10	<p>An access track to the eastern boundary was bare ground with a strip of scrub (approximately 6m wide) to the west dominated by blackthorn at the northern end. This became less dense further south, also including bramble, holly and elder.</p>	
11	<p>A chain link fence along the mid-section of the eastern boundary with an off-site hedge (approximately 3m tall and 1m wide) growing through from the school grounds beyond. Species included hawthorn, ivy, sycamore, holly and blackthorn. Ground flora included cow parsley, ivy and cleavers. The grass margin was approximately 1m wide. The hedgerow continued to the southern section of the eastern boundary, approximately 2m wide and 5m tall. Species also included cherry (<i>Prunus sp.</i>) and wild privet (<i>Ligustrum vulgare</i>).</p>	
12	<p>The southern section of the eastern boundary was a margin approximately 2m wide with rough grass adjacent to chain link and close board garden fences. Garden waste and compost heaps were scattered along the boundary.</p>	

13	<p>The southern boundary was a rough, tussocky grassland margin approximately 4-6m wide. Species included false-oat grass (<i>Arrhenatherum elatius</i>), cocks foot, couch grass (<i>Elymus repens</i>) and hogweed (<i>Heracleum sphondylinum</i>). Clematis and bramble scrub was also present.</p>	
14	<p>A pond shown on OS maps, 160m from the site boundary, was wet at the time of survey, although likely to dry annually. Aquatic vegetation was limited to filamentous algae. The majority of vegetation (both submerged and surrounding) was grasses. Surrounding habitat was semi-improved grassland fields and hedgerows.</p>	

## 4 Protected Species – Results and Evaluation

### *Flora and habitats*

- 4.1 The majority of the site was an arable field sown with a winter crop. Remnant crops and arable weeds were also occasional near the edges. Field margins were dominated by coarse grasses and ruderal weeds, and varied in width between approximately one and five metres. The widest and most species rich of these was adjacent to the southern boundary. A small area of herbaceous fen vegetation within a partially wet ditch was present at the western boundary. An access track to the south east included dense blackthorn scrub. The cropped area was well managed and it was considered likely that herbicide applications have been used. Due to the small amount of semi-natural habitat within the site boundary, it was considered unlikely that any of the rare plants highlighted in the desk study (mostly aquatic plants) would be present at the site.
- 4.2 Hedgerows were frequent along the western, northern and eastern boundaries. These were either species poor, had numerous gaps along their lengths or were of insufficient age to be classified as 'important' under the Hedgerow Regulations 1997.
- 4.3 Bluebell was recorded during the survey, within the hedgerow at Target Note 2. However, this species is of 'least concern' on the British Red Data List and in an area of the site unlikely to be impacted by the proposed development.
- 4.4 The desk study highlighted records of 11 species, mostly aquatic, with the potential to be recorded in habitats present within the site boundary. None of these were noted during the survey. No further survey is considered necessary.

### *Bats*

- 4.5 There were no buildings within the site boundary. No trees at or adjacent to the site were considered suitable for roosting bats
- 4.6 The site was dominated by arable land, which provides poor quality foraging habitat for bats. The hedgerows and tree lines at the site margins provided potential commuting routes and better quality foraging opportunities for bats.
- 4.7 The desk study highlighted records of a number of bat species within the surrounding area.
- 4.8 If the development can be confined to the arable land (without impacting the

hedgerows trees lines) it was considered unlikely that bats, if present in the local area, would be significantly impacted by the proposed development. No further survey is considered necessary.

### *Reptiles*

- 4.9 The majority of the site (arable land) provided poor quality habitat for reptiles. Areas of rough grassland at the western, southern and eastern boundaries, and the partially wet ditch to the west, provided potential foraging habitat for reptiles such as slow worm and grass snake. Garden refuse piles and compost heaps along the eastern margin also provided potential sheltering and hibernation opportunities for these species. Hedgerows also provided potential hibernation habitat for reptiles.
- 4.10 The desk study highlighted records of grass snake and common lizard within the surrounding area.
- 4.11 Due to the small extent of suitable reptile habitat that will be impacted by the proposed development, further surveys are not considered necessary. However, if any areas of the grass margins within the proposed construction zone are to be impacted then precautionary clearance is recommended to prevent harm to widespread reptiles which could potentially be using these areas. This should be carried out following a method statement which is likely to include the following methods:
- *Sequential strimming of vegetation to a height of 5cm. above ground level (care should be taken not to allow the blade/strimmer wire to make contact with the ground)*
  - *Strimming should be carried out in a southerly direction, to encourage any reptiles that may be present to move into appropriate surrounding habitat*
  - *Once strimming is completed the vegetation should be managed in such a way so as to ensure it remains unsuitable for re-colonisation by reptiles*
  - *These works should be carried out by, or under the supervision of, an ecologist*
  - *Works must be carried out when reptiles are active (between March and October depending on weather conditions)*

*Birds*

- 4.12 Trees and hedgerows surrounding the site provided potential nesting and foraging opportunities for birds. The arable crop will (with growth) also provide sheltering and nesting opportunities for ground nesting birds. Habitats within the site, such as arable fields and scattered boundary trees and hedgerows, are abundant locally.
- 4.13 Bird species observed during the field survey included robin, blue tit, blackbird, great tit, wood pigeon, chaffinch and goldfinch. Starling (BoCC red listed species), fieldfare (WCA Schedule 1 species) and bullfinch (UK BAP species) were also noted.
- 4.14 The site provided potential habitat for a range of nesting widespread and common species. BAP and red-listed species such as those identified in the desk study, could also use habitats such as those within the site boundary.
- 4.15 Any trees/ hedgerows proposed for retention should be suitably protected from harm during the construction works following British Standard: BS5837 (2012).
- 4.16 Site clearance and works proposed to any trees or hedges should be conducted outside the main bird breeding season (which is March until September). If removal of any trees, hedgerows or scrub is necessary between these dates, an ecologist should survey the site for active bird nests immediately prior to works. If nests are identified, there may be a delay in the clearance of some vegetation until all young birds have fledged.
- 4.17 Due to the suitability of the arable field for ground nesting birds, breeding birds surveys are recommended to assess the level of use of this habitat. These surveys can be undertaken between April and June, and require three to four visits to the site during this period.

*Amphibians*

- 4.18 There were no ponds or waterbodies within the site. A single pond was present within 500m of the site boundary, according to OS maps, which was approximately 160m to the west. This pond was a flooded corner of a semi-improved grassland field, and likely to become dry annually. A Habitat Suitability Index (HSI) value of 0.58 indicated that the pond was of below average suitability for breeding great crested newts.

	<b>Field Score</b>	<b>SI Value</b>
Location	A	1
Pond Area	50	0.1
Pond Drying	Dries annually	0.1
Water Quality	Good	1
Shade (%)	5%	1
Waterfowl	Absent	1
Fish	Absent	1
Number of Ponds	2	0.55
Terrestrial Habitat	Good	1
Macrophytes	50%	0.8
<b>HSI Score</b>		<b>0.58</b>
<b>Suitability to support breeding great crested newts</b>		<b>Below average</b>

- 4.19 The site itself generally comprised poor quality habitat for amphibians, such as toads and great crested newts, during their terrestrial phase. However, the small areas of rough grassland margins provided better quality habitat for these species.
- 4.20 There are no records of great crested newts within the surrounding area.
- 4.21 Given the poor quality of the majority of the terrestrial habitat within the site, and the large areas of good quality terrestrial habitat immediately surrounding the single pond within 500m, it was considered unlikely that amphibians would be present within the site, or would be impacted by the development. Therefore, further survey is not considered necessary.

### *Invertebrates*

- 4.22 The arable field was unlikely to support a large number of invertebrates due to the likely use of insecticides. However, the hedgerows and small areas of rough grassland provided potential habitat for common invertebrates. These habitats were of limited extent and therefore unlikely to support a significant assemblage of BAP or rare invertebrates.
- 4.23 The data search highlighted records of the wall, small heath and white-letter hairstreak butterflies (UK BAP species) within the surrounding area. Larval food plant grasses were present for wall and small heath, as were basking and nectaring

opportunities. However, due to the abundance of similar habitats within the surrounding area, it was not considered that the local conservation status of these species would be significantly affected by the proposed development.

### *Water Voles*

- 4.24 The wet (northern) section of the ditch along the western boundary of the site provided suitable habitat for water voles. Banks were approximately 45° and 1m tall, vegetation including rough grasses. An off-site ditch (approximately 5m from the boundary) which was fed by this provided better quality habitat to support a water vole population. Banks were 2.5m tall, steep on the western side and vegetation was more diverse including pendulous.
- 4.25 The desk study highlighted records of water vole within 1km of the site from 1998.
- 4.26 If proposals will impact the wet ditch to the north west of the site, it is recommended that surveys are undertaken to prevent disturbance or harm to this fully protected WCA Schedule 5 species.
- 4.27 Water vole surveys can be undertaken year round, although optimal timing is between March and October.

### *Hedgehogs and badgers*

- 4.28 The site provided moderate quality habitat for foraging badgers and hedgehogs, such as rough grass margins and hedgerows, though no evidence indicating the presence of either species was recorded during the site visit. A mammal run (Target Note 4) was recorded entering/exiting the site to the west, however, this could have potentially been used by foxes or muntjac. The site was not considered suitable for sett creation due to the lack of suitable cover.
- 4.29 There are records of badgers within the surrounding area from 1985, and within the same 10km square as the site from 1998.
- 4.30 No further survey is considered necessary.

### *Hares*

- 4.31 The arable field and surrounding hedgerows provided suitable foraging and sheltering habitat for brown hares. However, these habitats were abundant within the surrounding area, therefore it was considered unlikely that the proposed development would significantly impact this UK BAP species.

4.32 No further survey is considered necessary.

#### *Dormice*

- 4.33 The site was sub-optimal for dormice: Managed hedgerows were mostly gappy, with infrequent mature trees. Tree lines and buffers surrounding the site lacked a suitable understorey and therefore access to the canopy for this species. The site was not connected to any areas of woodland suitable for dormice.
- 4.34 There were no records of dormice within the surrounding area. Further survey is not considered recommended.

#### *Other Protected, BAP or Rare Species*

- 4.35 The partially wet ditch to the west of the site was not considered to be suitable for otters due to its small size and lack of potential food sources. The nearest river, the River Stort, was beyond the town of Sawbridgeworth, approximately 1.2km east of the proposed development site. Therefore, it was considered unlikely that species such as otter would be using the ditch as a commuting route, or would be impacted by the proposed development. The site was not considered suitable to support any other protected, BAP or rare species.

## **5 Key Recommendations, Further Surveys and Precautionary Methods**

- 5.1. Further survey for breeding birds, as recommended in Section 4, should be undertaken to assess the level of use of the site by breeding birds. Further surveys for water voles may be necessary if the ditch will be impacted by the proposals.
- 5.2. Precautionary clearance of rough grassland areas at the site margins will be necessary to avoid harm to small numbers of reptiles which may be present.
- 5.3. Precautionary clearance of the site, buildings and trees will be necessary, as detailed in Section 4, to avoid infringing legislation which protects all nesting birds.

#### **Protection of water quality adjacent/on the site.**

- 5.4. Surface water run-off rates and discharge of surface water through gully pots, should be limited through Conditions. Levels of these can be reduced through use of SUDS.
- 5.5. However, if works can be confined to the arable part of the site (with no impact on the adjacent woodland, hedgerows or coarse grassland) it was considered that

impacts on local flora and fauna would be negligible and the site could be enhanced for wildlife if some of the following recommendations are implemented:

## 6 Enhancement Recommendations

- 6.1 The following are suggestions that will enhance the value of the site for wildlife. However, it should be noted that these suggestions are not legally required for compensation of habitats or mitigation. At least a third of these additional recommendations will need to be implemented to maximize credits under Eco2 of the Code for Sustainable Homes.
- 6.2 The addition of bat boxes on the proposed buildings within the site would provide additional roosting opportunities. Schwegler bat boxes are recognised as being suitable for roosting bats and long lasting. Bat boxes should ideally be located south facing (between south east and south west) and above 5m. Boxes such as Schwegler 1FF, which are suitable for a range of different species, would be suitable for this site.
- 6.3 The addition of house sparrow boxes on the new buildings on site would provide additional nesting opportunities for this BoCC red listed species recorded in the local area. Standard bird boxes with a variety of shaped and different sized entrance holes would attract a greater diversity of birds to nest. Starling boxes would also provide additional nesting opportunities for this BoCC red listed species recorded at the site. Boxes should be located out of direct sunlight and close to, but not restricted by, vegetation.
- 6.4 Landscaping could incorporate native or wildlife attracting trees, shrubs, and wildflower areas as these would likely be of benefit to a variety of wildlife including, birds, bats and invertebrates. The landscape design could incorporate vegetative cover along the banks of the drainage ditch to the west, to maintain this wildlife corridor.
- 6.5 The construction of reptile hibernacula at the boundary of the site, particularly to the west adjacent to the drainage ditch, would enhance the site for reptiles in the future. These could be created by partially burying wood and rubble and covering with earth.
- 6.6 Connectivity in a landscape context should be considered at all stages of the design process. Native tree and hedgerow planting around the site should be considered, to create dispersal corridors and biodiversity linkages particularly along the western and

northern boundaries where opportunities exist to link the site to the surrounding countryside. Hedge planting along the western boundary will enhance the linear feature created by the ditch and will provide a commuting route from the small woodland area to the north west of the site.

- 6.7 Gaps in hedgerows to the boundaries of the site could be filled with native species such as field maple, guelder rose and spindle. This would improve these commuting routes for a variety of wildlife, provide additional nesting opportunities for birds and enhance ecological connectivity within the landscape.

## 7 Conclusion

- 7.1 The site predominantly consisted of an arable field. A partially wet ditch, hedgerows and mature boundary trees were present on the site, which could provide suitable habitat for reptiles, water voles and breeding birds.
- 7.2 If any further recommendations following further surveys and the precautionary measures for reptiles detailed in this report are followed, it was considered that the development could proceed with minimal impact on the local conservation status of any protected, BAP or rare species within the area.
- 7.3 It is also considered that with a sensitive landscape scheme, and by including some, or all, of the additional recommendations, the site could be enhanced for local wildlife post development.

## 8 References

- Bat Surveys: Good Practice Guidelines 2012 Bat Conservation Trust, London.
- Cheffings, C.M. & Farrell, L. (Eds), Dines, T.D., Jones, R.A., Leach, S.J., McKean, D.R., Pearman,D.A., Preston, C.D., Rumsey, F.J., Taylor, I. (2005) The Vascular Plant Red Data List for Great Britain. *Species Status 7*: 1-116. Joint Nature Conservation Committee, Peterborough.
- English Nature (2004) *Guidelines for Developers*. English Nature, Peterborough
- English Nature (2001) *Great Crested Newt Mitigation Guidelines*. English Nature
- Environmental Protection Act (Duty of Care) Regulations 1991.
- EU, Habitats Directive, ec.europa.eu/environment
- Froglife (1999) Reptile Survey *An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation*. Froglife Advice Sheet 10.
- Gent, A.H. and Gibson, S.D., eds. (1998) *Herpetofauna Workers' Manual*. Peterborough, Joint Nature Conservation Committee.
- Gregory, R. D. Wilkinson, N. I. Noble, D. G. Robinson, J. A. Brown A. F. Hughes, J. Proctor, D .A. Gibbons, D. W. & Galbraith, C.A. (2007) The population status of birds in the United Kingdom and Isle of Man: an analysis of conservation concern 2002-2007 *British Birds* **95**: 410-450.
- HMSO (1981) Wildlife and Countryside Act. HMSO, London.
- HMSO (2010) Conservation of Habitats and Species Regulations 2010 (as amended) HMSO,London.
- HMSO (2000) Countryside and Rights of Way (CRoW) Act. HMSO, London.
- HMSO (1992) Protection of Badgers Act, HMSO London.
- HMSO (2006) Natural Environment and Rural Communities Act HMSO London.
- JNCC (2010) *Handbook for Phase 1 habitat survey: a technique for environmental audit (revised reprint)* JNCC: Peterborough.
- National Planning Policy Framework (2012) ISBN: 9781409834137.
- Stace, C (2005) *Field Flora of the British Isles*. Cambridge University Press.

W.J. Cresswell, J.D.S. Birks, M. Dean, M. Pacheco, W.J. Trewella, D. Wells and S. Wray (2012) UK BAP Mammals Interim Guidance for Survey Methodologies, Impacts and Mitigation. Eds. The Mammal Society, Southampton.

*Web references*

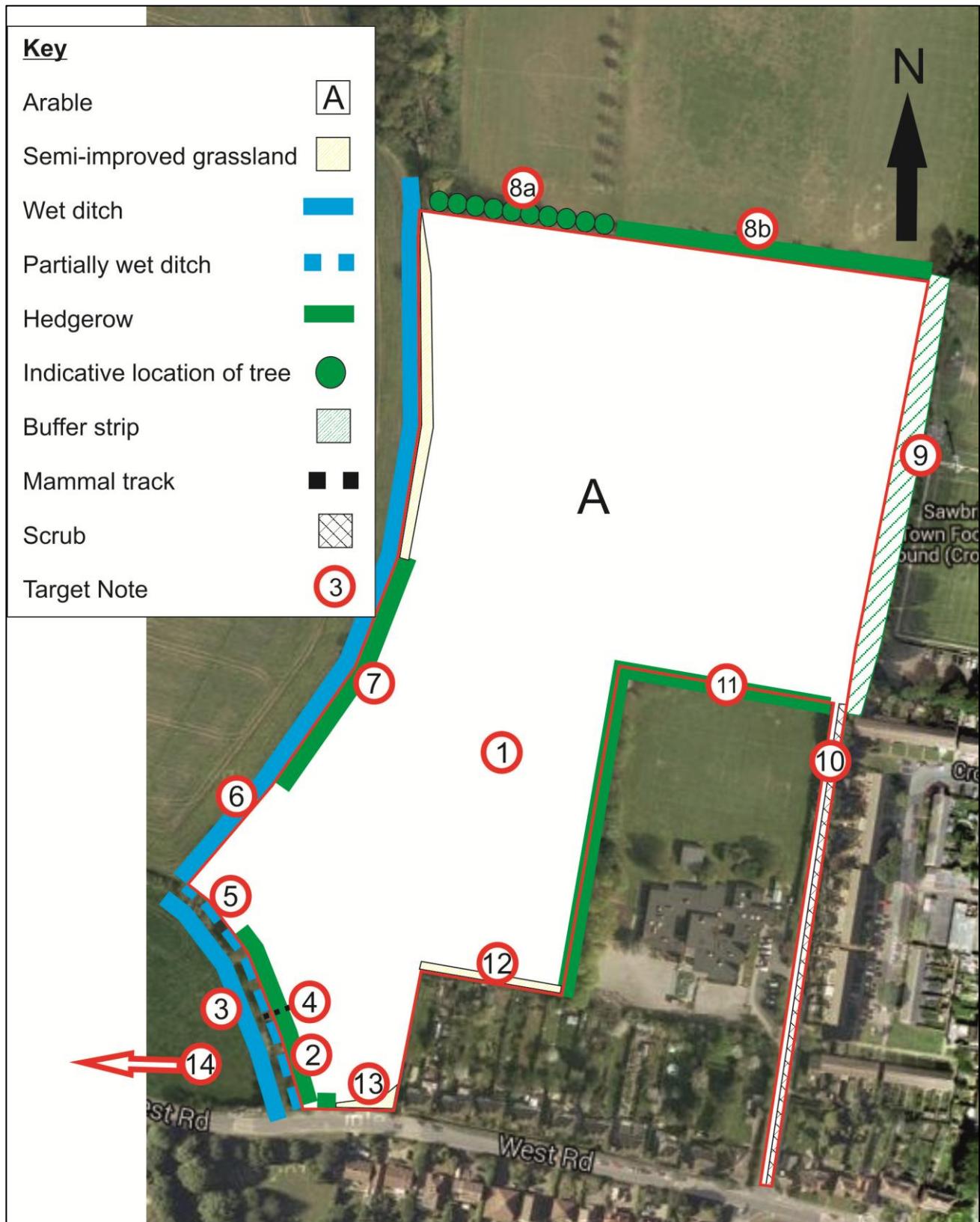
MAGIC: Designated area data downloaded from URL <http://www.magic.gov.uk.html>

UK BAP [www.ukbap.org.uk](http://www.ukbap.org.uk)

Hertfordshire Local BAP <http://www.hertsdirect.org/docs/pdf/a/cdip372>

## 9 Appendices

### Appendix A: Phase 1 habitat map



## Appendix B: Plant species list

### Forbs

Common Name	Scientific Name	Arable	Hedgerow	Ditch and margins	Grass margins
Cow parsley	<i>Anthriscus sylvestris</i>		✓		✓
Lords and ladies	<i>Arum maculatum</i>		✓		
Rapeseed	<i>Brassica napus</i>	✓			
Creeping thistle	<i>Cirsium arvense</i>			✓	
Clematis	<i>Clematis sp.</i>		✓		✓
Greater willowherb	<i>Epilobium hirsutum</i>			✓	
Meadowsweet	<i>Filipendula ulmaria</i>			✓	
Cleavers	<i>Galium aparine</i>	✓	✓		✓
Ground ivy	<i>Glechoma hederacea</i>			✓	
Dove's-foot crane's-bill	<i>Geranium molle</i>	✓			
Common hogweed	<i>Heracleum sphondylium</i>			✓	✓
Bluebell	<i>Hyacinthoides non-scripta</i>		✓		
White dead nettle	<i>Lamium album</i>				✓
Red dead nettle	<i>Lamium purpureum</i>			✓	✓
Water forget-me-not	<i>Myosotis Scorpioides</i>			✓	
Creeping buttercup	<i>Ranunculus repens</i>			✓	
Lesser celandine	<i>Ranunculus ficaria</i>			✓	
Common chickweed	<i>Stellaria media</i>	✓			
Nettle	<i>Urtica dioica</i>		✓	✓	
Field speedwell	<i>Veronica persica</i>	✓			

**Trees and shrubs**

Common Name	Scientific Name	Buffer	Hedgerow	Tree line	Ditch bank	Scrub
Field maple	<i>Acer campestre</i>	✓	✓			
Sycamore	<i>Acer pseudoplatanus</i>				✓	
Dogwood	<i>Cornus sanguinea</i>	✓	✓			
Hazel	<i>Corylus avellana</i>		✓			
Hawthorn	<i>Crataegus monogyna</i>	✓	✓		✓	✓
Spindle	<i>Euonymous europaeus</i>		✓			
Ash	<i>Fraxinus excelsior</i>	✓				
Ivy	<i>Hedera helix</i>		✓		✓	
Holly	<i>Ilex sp.</i>					✓
Privet	<i>Ligustrum sp.</i>		✓			
Wild privet	<i>Ligustrum vulgare</i>		✓			
Blackthorn	<i>Prunus spinosa</i>		✓		✓	✓
Cherry	<i>Prunus sp.</i>		✓			
Dog rose	<i>Rosa canina</i>	✓				
Bramble	<i>Rubus fruticosus</i>	✓	✓			
Goat willow	<i>Salix caprea</i>		✓		✓	
Willow	<i>Salix sp.</i>				✓	
Elder	<i>Sambucus nigra</i>		✓		✓	✓
Poplar	<i>Populus sp.</i>			✓		

**Grasses and sedges**

Common Name	Scientific Name	Grass margins	Ditches and margins
False oat grass	<i>Arrhenatherum elatius</i>	✓	
Pendulous sedge	<i>Carex pendula</i>		✓
Cocksfoot	<i>Dactylis glomerata</i>	✓	
Wavy-hair grass	<i>Deschampsia flexuosa</i>	✓	
Couch grass	<i>Elytrigia repens</i>	✓	
Yorkshire fog	<i>Holcus lanatus</i>	✓	
Perennial ryegrass	<i>Lolium perenne</i>	✓	
Reed canary grass	<i>Phalaris arundinacea</i>		

## Appendix C: Confidential Protected Species Records

(Removed due to confidentiality)

## Appendix D: Relevant protected species legislation

Species	Relevant Legislation	Level of Protection
Birds	<ul style="list-style-type: none"> <li>○ Protection under the Wildlife and Countryside Act (1981) as amended</li> </ul>	<p>Under the WCA (1981), it is an offence to: (with exceptions for certain species):</p> <ul style="list-style-type: none"> <li>• Intentionally kill, injure or take any wild bird</li> <li>• Intentionally take, damage or destroy nests in use or being built (including ground nesting birds)</li> <li>• Intentionally take, damage or destroy eggs</li> </ul> <p>Species listed on Schedule 1 of the WCA or their dependant young are afforded additional protection from disturbance whilst nesting</p>
Widespread reptiles	<ul style="list-style-type: none"> <li>○ Partially protected under Schedule 5 of the Wildlife and Countryside Act (1981) as amended.</li> </ul>	<p>Under the WCA (1981), it is an offence to:</p> <ul style="list-style-type: none"> <li>• intentionally kill or injure these animals</li> <li>• sell, offer for sale, advertise for sale, possess or transport for the purposes of selling any live or dead animals or part of these animals</li> </ul>
Water vole	<ul style="list-style-type: none"> <li>○ Habitat protected by the Wildlife and Countryside Act (1981) as amended 1998.</li> <li>○ Water voles are also protected by the Wild Mammals (Protection) Act 1996</li> </ul>	<p>Under the WCA (1981), it is an offence to:</p> <ul style="list-style-type: none"> <li>• Intentionally or recklessly damage or destroy or obstruct access to any place or structure which water voles use for shelter or protection</li> <li>• Disturb water voles whilst they are using such a place</li> </ul>