



Preliminary Ecological Appraisal

of

Land North of Hurdleditch Road, Orwell, Cambridgeshire

on behalf of

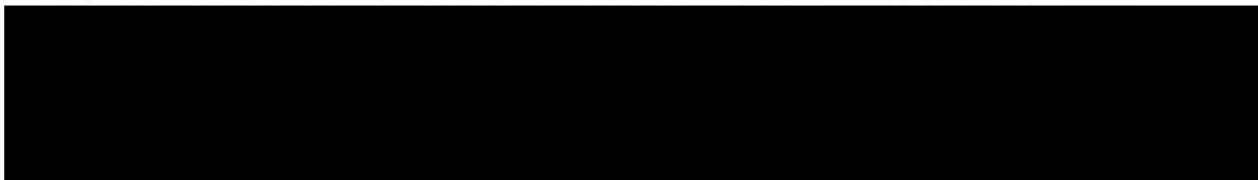
KB Tebbit Ltd


January 2021

Revision A - February 2021

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Revision	Purpose	Originated	Checked	Authorised	Date
~	~	CB	SR/AC	JBA	January 2021
A	Minor amendments	SR		JBA	February 2021
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		Title: Preliminary Ecological Appraisal of Land North of Hurdleditch Road, Orwell, Cambridgeshire			

Disclaimer

James Blake Associates 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.

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Non-technical Summary

Site:	Land North of Hurdleditch Road, Orwell, Cambridgeshire
Ordnance Survey National Grid Reference:	TL 357502
Report Commissioned by:	KB Tebbit Ltd
Date of Walkover Survey:	12 th January 2021

Considerations	Description	Potential impacts and timing
Statutory designated wildlife areas within 7km of the site:	Ten Sites of Special Scientific Interest (SSSI), two Local Nature Reserve (LNR) and one Special Area of Conservation (SAC).	The site is within several IRZ's for SSSI's and meets the qualifying criteria for consultation between the Local Planning Authority and Natural England. However, if the proposal is for less than 10 units, the impact on nearby designated sites is unlikely to be significant.
Non-statutory designated wildlife sites within 2km of the site:	Two non-statutory designated wildlife sites were located within 2km.	No impacts on the non-statutory sites are anticipated.
Results of walkover survey:	The site is considered suitable to support badger, otter, nesting birds and water vole.	-
Phase 2 surveys:	Badger survey.	Six months prior to development works. Optimal period for badger survey is between February to April or in September.
Precautionary measures:	Fox and rabbit earths and holes.	Precautionary measures for removing soil/vegetation near earths and holes.
	Vegetation removal.	Outside of the nesting bird season or following a clear nesting bird check. Nesting season is March to mid-August.

1 Introduction

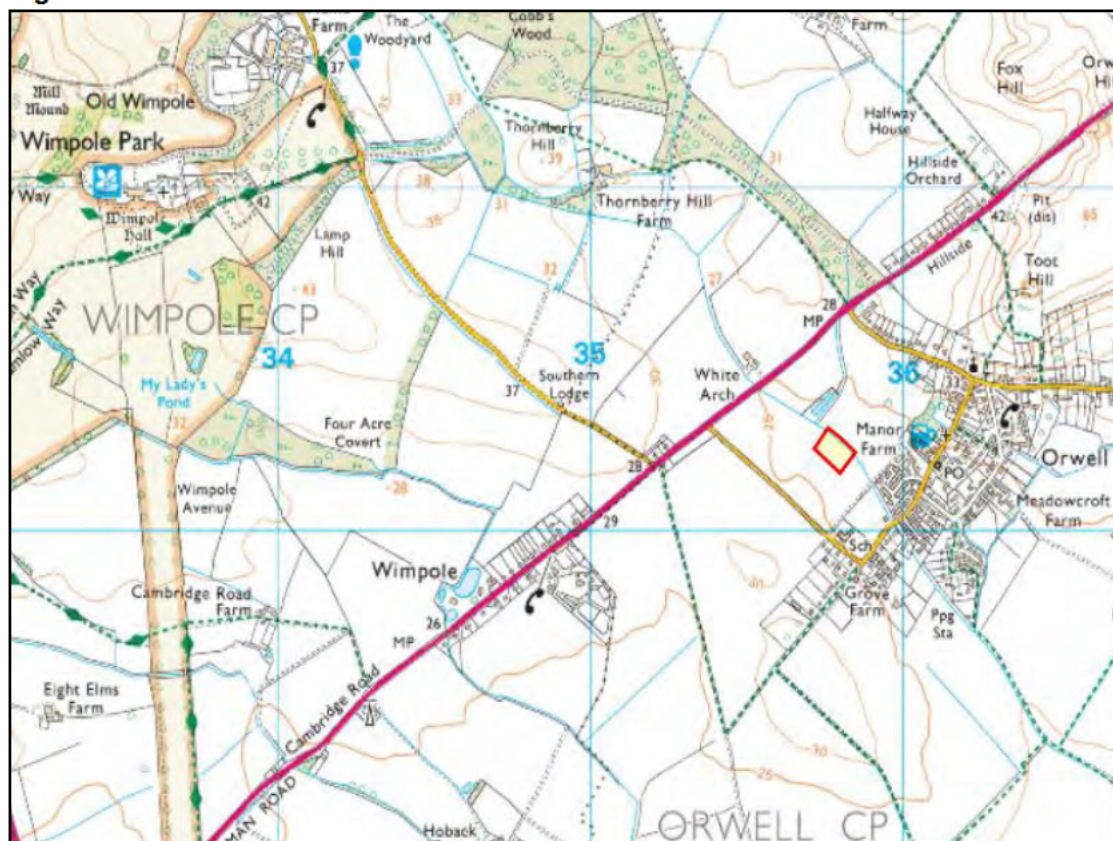
Background

- 1.1 James Blake Associates Ltd. was commissioned by KB Tebbit Ltd to undertake an updated Preliminary Ecological Appraisal (PEA) of land north of Hurdleditch Road, Orwell, Cambridgeshire. Ordnance Survey National Grid Reference TL 35778 50216 (taken from the centre of site).
- 1.2 The assessment was undertaken and prepared to support the ongoing promotion of the site for residential development of 8-11 dwellings through the emerging Greater Cambridge Local Plan (GCLP).

Site Description

- 1.3 The site is approximately 0.9 hectares in size and is located to the north of Hurdleditch Road in the village of Orwell, Cambridgeshire. The wider landscape includes the villages of Orwell and Wimpole, residential buildings, arable land and woodland. The A603 is approximately 0.2km north of the site (see Figure 1 below).

Figure 1: Site location



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Aims and objectives

1.4 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; and
- make recommendations for further surveys if required, to advise on avoidance and/or mitigation measures following the survey (if necessary and provide suggestions to enhance the wildlife value of the site post-development to provide a net gain in biodiversity value.

Wildlife Legislation and Planning Policy

1.5 The relevant wildlife legislations and planning policies are listed below:

- Conservation of Habitats and Species Regulations 2017, ('The Habitats Regulations'). The Habitats Regulations implement The Habitats Directive 1992 (92/43/EEC) into English Law. (Amended by the Conservation of Habitats and Species (Amendment) Regulations 2012 S.I. 2012/1927).
- Wildlife and Countryside Act, 1981 (as amended) (WCA). (Amended by the Countryside and Rights of Way Act (2000).
- The Natural Environment and Rural Communities Act, 2006 (NERC).
- The Protection of Badgers Act, 1992 (The Badgers Act).
- The Wild Mammals (Protection) Act, 1996.
- The Hedgerows Regulations, 2007.
- National Planning Policy Framework, 2019 (NPPF).

2 Methodology

Desk study

- 2.1 A desk study was undertaken for statutory and non-statutory designated wildlife sites within a 7km and 2km radius of the site, respectively using 'MAGIC', the Multi-Agency Geographic Information system for the Countryside. The data provided from Cambridgeshire and Peterborough Environmental Records Centre was consulted for records of non-statutory sites and protected and rare species within a 2km search radius (data provided on the 14th January 2021).
- 2.2 Within the desk study results, 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 the International Union for Conservation of Nature (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.

Walkover Survey

- 2.3 The survey was undertaken by Christopher Bridge BSc (Hons) (Natural England Great Crested Newt Class Licence CL08 and Natural England Barn Owl Class Licence CL29) on the 12th January 2021.
- 2.4 The survey methodology followed the standard Phase 1 methodology of Joint Nature Conservation Committee Guidelines (JNCC, 2010). An extension of this basic methodology was also undertaken to provide further details in relation to notable or protected habitats present within the survey area, or in relation to habitats present that have the potential to support notable or protected species (CIEEM, 2013).
- 2.5 **Badgers (*Meles meles*):** A visual survey for setts, hair, latrines, prints, snuffle marks or other signs of badgers was undertaken within the site boundary, following guidelines set out by the Mammal Society (1989).
- 2.6 **Bats:** Trees within the site boundary were surveyed, from the ground, for their potential to support roosting bats in accordance with Bat Conservation Trust's Guidelines (Collins (ed.), 2016).
- 2.7 **Otter (*Lutra lutra*) and Water Vole (*Arvicola amphibius*):** A visual survey for the presence of field signs was carried out to assess if otter and/or water vole were likely

to be present.

- 2.8 **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, BoCC or other common and widespread nesting birds.
- 2.9 **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).
- 2.10 **Amphibians:** Where accessible, 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 amphibians, such as great crested newts (GCN) (*Triturus cristatus*). Ponds were assessed for their potential suitability to support GCN by undertaking a Habitat Suitability Index (HSI) assessment (Oldham *et al.*, 2000). The HSI for GCN is assessed using ten habitat variables (suitability indices – SI) which are known to affect the survival and ability to breed, of GCN. The variables include:
- Geographical location.
 - Pond area.
 - Pond permanence (number of years a pond is likely to dry out per decade).
 - Water quality.
 - Percentage of shade of margin.
 - Number of waterfowl.
 - Occurrence of fish.
 - Pond density.
 - Terrestrial habitat.
 - Macrophyte (plant) cover.

Each variable (or suitability index) is assessed in the field and expressed on a scale from 1 (optimal suitability for GCN) to 0 (totally unsuitable). The ten variables, or indices, are combined using geometric mean to derive the final HSI score for the waterbody. The scoring system is presented in Table 1 below:

Table 1: HSI score and suitability of a waterbody habitat to support breeding GCN

HSI Score	Suitability of water body habitat to support breeding GCN
0.01-0.49	'Poor'
0.50-0.59	'Below average'

0.60-0.69	'Average'
0.70-0.79	'Good'
0.80-1.00	'Excellent'

- 2.11 **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.
- 2.12 **Flora and habitats:** All habitats and plant species that were identifiable at the time of the survey were recorded.
- 2.13 **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.

Limitations and Assumptions

- 2.14 The baseline conditions reported in this document represent those identified at the time of the survey on 12th January 2021. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed. The survey was conducted in January, which is outside the optimal season for the identification of flora, however this is not considered a significant constraint.
- 2.15 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 is useful as a general guide to supplement the site visit, but absence of records does not reflect absence of species.

3 Results

Desk Study

Statutory Designated Wildlife Sites

- 3.1 Ten Sites of Special Scientific Interest (SSSIs), two Local Nature Reserves (LNRs) and one Special Area of Conservation (SAC) were identified within 7km of the site. Statutory designated sites are detailed in Appendix A.
- 3.2 According to the SSSI Impact Risk Zones (IRZs) on MAGIC, the development falls under the criteria for consultation between Natural England and the Local Planning Authority (LPA) as the proposal is for a new housing development in proximity to at least one designated site. An assessment is usually required in relation to recreational pressure on the relevant SSSI's with measures to mitigate for any identified adverse impacts, however as the proposals are for under 10 units, it seems unlikely that the impact on nearby designated sites will be significant. The local authority or Natural England will be able to give further advice as to whether an assessment will be required in this case.

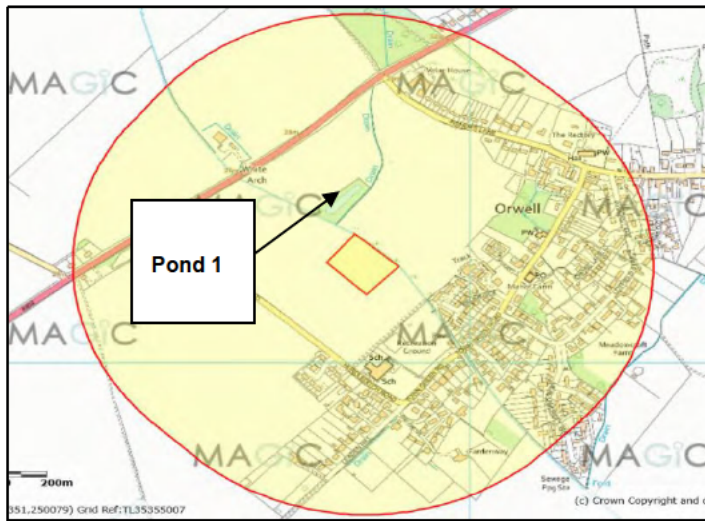
Non-Statutory Designated Wildlife Sites

- 3.3 There are two non-statutory designated wildlife sites located within 2km of the site; 'County Wildlife Sites' (CWS). No impacts from the proposal are anticipated due to the small scale nature of the proposed development.

Ponds within 500m

- 3.4 A single pond (Pond 1) was identified within 500m of the site boundary (see Figure 2.) However, this is considered to be ecologically separated from the site due to a fast flowing stream acting as a significant barrier to GCN.

Figure 2: Ponds within 500m of the site boundary

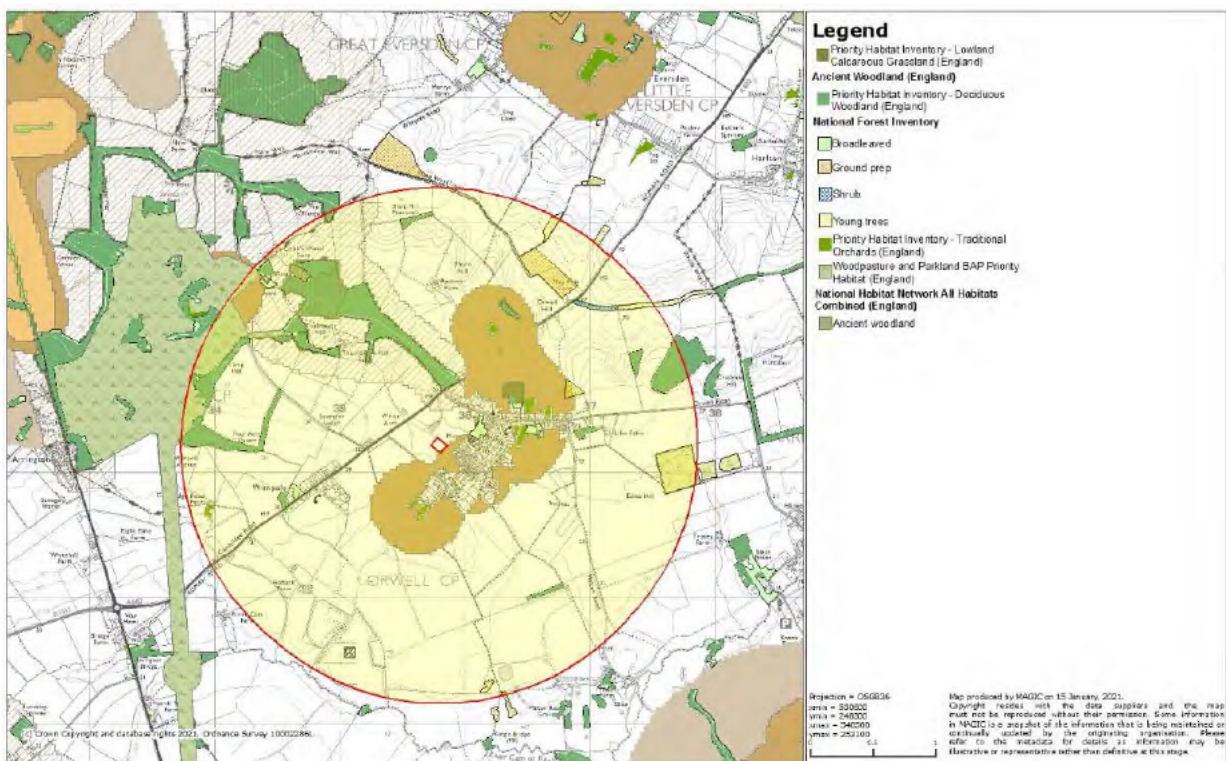


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Habitat Types within 2km

3.5 Habitat types within the area include lowland calcareous grassland, deciduous and ancient woodland, woodpasture and parkland, traditional orchards, young trees, shrub, broadleaved and ground prep. Habitat types are shown on Figure 3. The nearest deciduous woodland is located 383m north.

Figure 3: Habitat types within 2km of the site



Protected, priority and rare species within 2km of site

- 3.6 There were no records of protected or rare species for the site itself; although there were numerous records of species within 2km of the site (full raw data can be provided upon request). The most relevant records are described below. Records over ten years old have not been referred to as the walkover survey is considered to provide a more up to date and accurate account of the species and habitats for the site.
- 3.7 European badger was recorded in 2013, within 2km of the site boundary.
- 3.8 Great crested newt were identified during the desk with the most recent record from 2019 and the nearest record approximately 2km west.
- 3.9 Within the desk study, serotine (*Eptesicus serotinus*) were recorded 1.9km north west of the site in 2014.
- 3.10 Brown hare (*Lepus europaeus*) were identified within 2km of the site. The most recent record is from 2018 and the nearest record from 0.8km south west.
- 3.11 A record of an otter was identified in 2016 1.2km east.
- 3.12 Water vole was identified in 2014 approximately 152m south east along the same stream that runs along the north eastern boundary of the site.
- 3.13 25 Red listed bird species were identified within 2km of the site; including cuckoo (*Cuculus canorus*), fieldfare (*Turdus pilaris*), house sparrow (*Passer domesticus*), linnet (*Carduelis cannabina*) and yellowhammer (*Emberiza citrinella*).
- 3.14 Twenty nine Amber listed bird species were also identified within the desk study; including bullfinch (*Pyrrhula pyrrhula*), dunnock (*Prunella modularis*) and reed bunting (*Emberiza schoeniclus*).
- 3.15 Small heath butterfly (*Coenonympha pamphilus*) have been recorded within 2km of the site boundary in 2012, 603m north east.
- 3.16 A record of white-clawed freshwater crayfish (*Austropotamobius pallipes*) were identified 620m south east in 2014 along the same stream that runs along the north eastern boundary of the site.
- 3.17 A total of 3 moth species were identified; all of which are UK BAP, including latticed heath moth (*Chiasmia clathrata*).




Walkover Survey

- 3.18 The habitats on site were considered with respect to their potential to support protected species.
- 3.19 Within the redline boundary the site comprises a number of dominant 'habitat types', taken from those listed in the Handbook for Phase 1 Habitat Survey (JNCC, 2010). These habitat types are described below and are shown schematically on Figure 4. Target Notes (TN) are presented in Table 2. A list of plant species identified on site is included in Appendix B. The baseline conditions reported and assessed in this document represent those identified at the time of the survey on 12th January 2021. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed.
- 3.20 The majority of the site comprises an arable crop field with semi-improved grassland. Other habitats present on site are scattered scrub, boundary trees and tall ruderals. A stream (fast flowing) was also present at the north eastern boundary of the site.
- 3.21 The following photographs in Table 2 show the Target Notes referred to in Figure 4.

Figure 4: Phase 1 Habitat Map



Table 2: Target Notes

Target Note	Description	Photo
1	Fox (<i>Vulpes vulpes</i>) earth.	
2	Deer runs; muntjac (<i>Muntiacus reevesi</i>) and fallow (<i>Dama dama</i>).	
3	Deadwood.	

4 Protected Species – Results and Evaluation

Badger

- 4.1 The habitats on the site varied with respect to suitability for badger. Areas of scattered scrub could provide shelter and sett creation; however, this habitat is limited to the north eastern boundary of the site. Habitats adjacent (or within 30m) of the site boundary offer some potential for sett creation.
- 4.2 The strip of semi-improved grassland on site provides limited foraging opportunities due to the small scale nature of the habitat.
- 4.3 Some mammal push-throughs were present during the survey to the north eastern boundary of the site which are considered to be fox, rabbit and fallow and muntjac deer; not large enough to have been created by badgers.
- 4.4 No setts or evidence of badger activity with regard to hair, latrines or snuffle holes were recorded on the site itself during the survey. However, badgers can move into an area relatively rapidly, especially if there is pressure on the habitat they are currently using or if foraging opportunities increase.

Bats

- 4.5 The scattered/boundary trees on site are considered to have 'negligible' to 'low' BRP due to no or minimal suitable features present, such as dense ivy cover, peeling bark or knot holes.
- 4.6 Habitat on site was assessed as 'low' for small numbers of foraging and commuting bats. Although there are no linear features on three of the site boundaries; the stream, small numbers of boundary trees and scattered scrub to the north east provides some connectivity to the wider landscape. These habitats will be retained as part of the proposed development.

Otter and Water Vole

- 4.7 The stream present to the north eastern boundary is considered suitable for water vole and otter; the banks of the stream offer good habitat for burrow creation and is linked to further waterways in the surrounding area.

- 4.8 In the desk study, both species were recorded within 2km of the site boundary, however no evidence of either species was recorded at the time of the survey.
- 4.9 Current proposals show that the stream is unlikely to be impacted by the development; stream vegetation is to be retained and a landscaping buffer zone will be implemented.

Mammals - Other

- 4.10 The site provides low suitability for hedgehog due to the majority of the site consisting of an arable field. Boundary trees at the north east and semi-improved grassland could provide shelter and foraging opportunities, although these are very limited. No evidence of hedgehog was recorded during the walkover survey.
- 4.11 A large mammal hole was located on site and assigned to be a fox earth due to the moderate size of the entrance hole and with a strong odour around the entrance and along the well-worn runs nearby. Evidence at the time of the survey suggested that recent flooding had occurred and entered the entrance hole.
- 4.12 Several rabbit holes were noted along the north eastern boundary of the site but again, evidence showed that these had been recently flooded out.

Birds

- 4.13 Boundary trees and scattered scrub on site provide nesting and foraging opportunities for birds, although limited. The semi-improved grassland is considered unsuitable for ground nesting birds due to the small scale nature of this habitat and limited shelter.
- 4.14 Bird species observed during the walkover survey included; dunnock, meadow pipit (*Anthus pratensis*), redwing (*Turdus Iliacus*) and starling (*Sturnus vulgaris*). A full list of bird species noted during the walkover survey can be found in Appendix D.

Reptiles

- 4.15 The majority of the site is considered unsuitable for reptiles due to the extent of arable field. The semi-improved grassland and boundary trees have limited potential to provide habitat for reptiles due to the small scale nature of the habitat. However, these habitats will be retained as part of the proposals.

Invertebrates

- 4.16 The habitats on the site are unlikely to support a diverse assemblage of invertebrates. However, the scattered scrub area provides potential habitat for invertebrates such as latticed heath moth and small heath butterfly which were identified in the desk study.
- 4.17 No rare or protected invertebrate species were observed during the walkover.

Flora

- 4.18 No rare, principally important, local BAP or protected plant flora was identified during the walkover survey.

5 Evaluation, Legislation and Recommendations

5.1 Table 3 below includes a summary of all identified and potential ecological constraints to the development, including those where there is insufficient information at the time of survey to be definitive. Relevant legislation has also been given here.

Table 3: Survey evaluation, relevant legislation and recommendations

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
Designated wildlife areas - statutory	<p>The desk study identified ten SSSI's, two LNR's and one SAC within 7km of the site:</p> <ul style="list-style-type: none"> • Orwell Clunch Pit SSSI (0.6km north east); • Eversden and Wimpole Woods SSSI (1.9km north west); • Barrington Chalk Pit SSSI (2.4km east); • Barrington Pit SSSI (2.5km south east); • Eversden and Wimpole SAC (2.7km north west); • L-moor, Shrepreth (SSSI) (3.7km south east); • Kingston Wood and Outliers SSSI (4.3km north west); • Melwood LNR (4.6km south east); • Kingston Amenity Area LNR (5.9km north west); • Fowlmere Watercress Beds SSSI (6.2km south east); • Hayley Wood SSSI (6.6km north west); • Holland Hall (Melbourn) Railway Cutting SSSI (6.8km south); and • Hardwick Wood SSSI (6.9km north). 	<p>The site is within several IRZ's for SSSI's and may meet the qualifying criteria for consultation between the LPA and Natural England due to new residential housing. An assessment is usually required due to increased recreational pressure on SSSI's, however, if the development is for less than 10 units, the LPA may not require this. It is recommended that the local authority or Natural England is approached for further advice on this matter.</p>
Designated wildlife areas – non-statutory	<p>The desk study identified two non-statutory designated wildlife areas within 2km of the site:</p> <ul style="list-style-type: none"> • Orwell Hill RSV CWS (755m north); and • Wimpole Park CWS (2km west). 	<p>No further survey required.</p>
Habitats	<p>Habitats on the site comprise:</p> <ul style="list-style-type: none"> • Arable land; • Semi-improved grassland; • Scattered scrub; • Stream; • Tall ruderals; and • Boundary trees. 	<p>No habitats on site are NERC Priority Habitats. No further assessment required.</p>
Badger	<p>There was no evidence of badger activity on site during the walkover survey. Semi-improved grassland on site provides limited foraging opportunities due to the small scale nature of the habitat. However, habitats adjacent (or within 30m) of the site boundary offer some potential for sett creation.</p> <p>Badgers and their setts are protected under the Protection of Badgers Act 1992 and also protected by the Wild Mammals (Protection) Act 1996. Protection also extends to include disturbance. Under the Protection of Badgers Act 1992, it is an offence to intentionally or recklessly:</p> <ul style="list-style-type: none"> • Kill, injure or take badgers; • Damage a badger sett or any part of it; 	<p>6 months prior to the commencement of construction, a badger check should be undertaken for the presence of setts. This is to assess any likely adverse impacts on active setts (if present) or badgers using a sett for shelter or protection. Setts can extend up to 20m underground from their entrance. Surveys can be undertaken all year round with the optimum period being February to April or September.</p> <p>If the proposed works are likely to adversely impact a sett (if present), then a development licence would be</p>

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
	<ul style="list-style-type: none"> • Destroy a badger sett; • Obstruct access to, or any entrance of a badger sett; and • Disturb a badger whilst it is occupying a badger sett. 	necessary from Natural England prior to commencement.
Bats	<p>All boundary trees within the site boundary are considered to have 'negligible' to 'low' BRP.</p> <p>The site was considered to have 'low' suitability for foraging and commuting bats.</p> <p>All species of bat are afforded full legal protection under Schedule 5 of the WCA. They are also listed under Schedule 2 of the Habitats Regulations. Some species of bat are also listed in Section 41 of the NERC Act as an SPI.</p> <p>Combined legislation makes it an offence: to deliberately kill, injure, capture/take a wild bat; intentionally or recklessly disturb bats, including whilst occupying a place of shelter or protection; to damage or destroy a place used by a bat for breeding or resting (does not need to be deliberate, reckless or intentional); and to intentionally or recklessly obstruct access to any place used by a bat for shelter or protection.</p> <p>Bats are classed as 'European Protected Species' (EPS) and mitigation will typically be undertaken under the auspices of an EPS licence from Natural England.</p>	<p>Current layout proposals will retain all trees on the north eastern boundary of the site, in conjunction with a buffer zone running the length of the stream.</p> <p>Lighting may need to be a consideration with respect to foraging bats, particularly to the north eastern boundary vegetation.</p>
Water vole and otter	<p>No evidence of water vole or otter were recorded on site during the walkover. However, habitats on site are considered suitable for these species.</p> <p>In the desk study; water vole and otter were identified within 2km of the site boundary.</p> <p><u>Legislation / Policy</u></p> <p>Water vole:</p> <ul style="list-style-type: none"> • Schedule 5 WCA (full protection) • Section 41 NERC • Wild Mammals (Protection) Act 1996 • IUCN Red Data Book: Least Concern 	<p>According to current plan proposals, the stream will not be impacted. However, if development is to come within 5m of the stream then further surveys for water vole and otter is required to assess the presence or likely absence of these species using the site.</p> <p>Water vole surveys can be carried out from April to September (one survey during April to June and one survey during July to September).</p> <p>Otter survey can be undertaken at any time of the year.</p> <p>All works within the vicinity of the stream should be carried out in line with current pollution prevention guidance.</p>
Mammals - other	<p>A fox earth was recorded at the north eastern boundary of the site.</p> <p>No evidence of hedgehogs were recorded on site.</p> <p>Evidence of rabbit was also noted with a few burrows.</p> <p>Abundant evidence of deer, muntjac and fallow, were noted along the north eastern boundary with frequent</p>	<p>It is recommended that works which may impact the fox earth is done during ecological supervision to avoid any harm if animals are present.</p> <p>Fox typically breeds in January and cubs are born in March. The earths will be occupied by the vixen and cubs until June. Therefore, works near the fox earth should be undertaken between mid-July and</p>

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
	<p>slots and runs stretching across the stream and into adjacent habitat.</p> <p>All wild mammals are protected under the Wild Mammals (Protection) Act 1996. Offences relate to any act which results in the intent to inflict unnecessary suffering. Mercy killings and killing in a swift and humane way in the course of a lawful activity are not offences under the Act.</p>	<p>January. If the earths require works or removal prior to this, further advice should be sought from an ecologist.</p> <p>See Section 6 for enhancements.</p>
Birds	<p>The following habitats have the potential to support breeding birds:</p> <ul style="list-style-type: none"> • Boundary trees; and • Scattered Scrub. <p>No nests were present on site during the walkover survey.</p> <p>All wild birds while actively nesting are afforded legal protection under the WCA.</p> <p>Special protection is also afforded to birds listed on Schedule 1 of the WCA which makes it an offence to disturb these species at nest or the dependent young.</p> <p>Combined legislation means that all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to:</p> <p>a) intentionally kill, injure or take any wild bird;</p> <p>b) intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;</p> <p>c) intentionally take or destroy the egg of any wild bird;</p> <p>d) have in one's possession or control any wild bird (dead or alive), part of a wild bird or egg of a wild bird;</p> <p>e) intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependent young of such a bird; and</p> <p>f) have in one's possession or control any birds of a species listed on Schedule 4 of the Act unless registered in accordance with the Secretary of State's regulations.</p>	<p>It is recommended that any vegetation clearance and disturbance is undertaken outside of the nesting season. The nesting season is deemed to be from mid-March to mid-August, although these times can be temperature dependent.</p> <p>If this timing is not possible then a nesting bird check must be carried out by a suitably experienced person, no more than 48 hours between the check and the removal. If the 'all clear' is given, then removal/works can commence. The survey lasts for no longer than 48 hours. If works are not completed in this time frame, then a re-survey will need to be carried out.</p> <p>If birds are found to be nesting, then no works should be undertaken within at least 10m of the nest until chicks have fledged.</p>
Reptiles	<p>The majority of the site is considered unsuitable for reptiles. The semi-improved grassland and boundary trees have limited potential to provide habitat for reptiles due to the small scale nature of the habitat.</p> <p>No reptile records were noted during the desk study.</p> <p>Reptiles are afforded protection under Schedule 5 of the WCA from deliberate injury, killing and trade. They are also listed under Section 41 of the NERC as an SPI.</p>	<p>According to current plan proposals, majority of the boundary vegetation will be retained.</p> <p>No further survey recommended.</p>
Amphibians, particularly GCN	<p>A single pond was identified within 500m of the site boundary on the other side of the fast flowing stream; this was considered an ecological barrier to GCN.</p> <p>The boundaries of the site are considered unsuitable terrestrial habitat for GCN. GCN were identified in the desk study approximately 2km west of the site.</p>	<p>No further survey recommended.</p>

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
	<p>Both aquatic and terrestrial habitat is protected under wildlife legislation.</p> <p>GCN is afforded full legal protection under Schedule 5 of the WCA. It is also listed under Schedule 2 of the Habitats Regulations. This species is also listed under Section 41 of the NERC as a species of Principal Importance.</p> <p>GCN are classed as a 'European Protected Species' and any necessary mitigation is typically undertaken under the auspices of a licence from Natural England.</p>	
Invertebrates	The habitats on site are unlikely to support a diverse assemblage of invertebrates. However, areas of scattered scrub can be used by a small number of invertebrates, such as butterflies.	<p>No further surveys recommended.</p> <p>See Section 6 for enhancements.</p>
Flora	<p>The habitats on site are unlikely to support any rare or protected flora.</p> <p>No Schedule 9 invasive plant species were identified on site.</p>	No further surveys recommended.

6 Ecological Considerations and Enhancements

- 6.1 The proposed development is considered unlikely to be adversely detrimental to designated areas, protected species or habitats, provided the recommendations are followed in Table 4. However, a number of considerations and enhancements are recommended with respect to the overall biodiversity of the site in line with current Planning Policy.
- 6.2 A Biodiversity Net Gain (BNG) assessment may be requested by the LPA to provide a net gain of at least 10%. BNG calculations can be undertaken using Defra Metric 2.0 (2019, as amended) which involves comparing 'baseline' habitat measurements with proposed habitats, post-development.
- 6.3 Where possible, scattered scrub and trees at the boundaries of the site should be retained with a 5m buffer zone and enhanced to create corridors and shelter/foraging areas for wildlife including badgers, bats, birds, and foxes.
- 6.4 The addition of three standard bird boxes on retained trees and/or new builds will attract a greater diversity of birds to nest. A number of 1SP Schwegler sparrow terraces should be installed onto new builds. These should be located out of direct sunlight and close to but not restricted by vegetation.
- 6.5 The addition of three bat boxes could also be installed on retained trees and/or new builds to provide roosting opportunities for common species.
- 6.6 Landscaping should 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, including pollinators.

7 Conclusion

- 7.1 A Preliminary Ecological Appraisal was undertaken at land north of Hurdleditch Road, Orwell, Cambridgeshire by James Blake Associates Ltd. to support the promotion of the site for residential development through the emerging GCLP.
- 7.2 The majority of the site comprises an arable land with semi-improved grassland with boundary trees, scattered scrub and tall ruderals. A stream runs along the north eastern boundary.
- 7.3 Further protected species surveys are recommended prior to development for badgers.
- 7.4 Current development proposals show that boundary trees and the stream will not be impacted and that a sufficient buffer will be implemented. This will retain the majority of the ecological interest currently present on site.
- 7.5 If any mitigation or compensation measures recommended following these further surveys is carried out, and if the precautionary measures for fox, hedgehog and nesting birds detailed in this report are followed, it is considered that the development is able to proceed with minimal impact on the local conservation status of any protected, principally important or rare species within the area.
- 7.6 It is also considered that with a sensitive landscape scheme, and by including some, or all, of the additional enhancements, the site could be improved for local wildlife post development.

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10 Appendices

Appendix A: Statutory designated wildlife sites within 7km

Site Name	Designation	Distance from Site	Description
Orwell Clunch Pit	SSSI	0.6km north east	Totalling 1.86 hectares of a rich chalk grassland flora, a community type that is scarce in eastern England. Scattered scrub is evident in other areas. Plants include spiny restharrow (<i>Ononis spinosa</i>).
Eversden and Wimpole Woods	SSSI	1.9km north west	A large 66.55 hectare important ancient semi-natural woodland of a type now localised in extent, and rare in lowland England. The wood is home to a nationally important summer maternity roost for barbastelle bat (<i>Barbastella barbastellus</i>).
Barrington Chalk Pit	SSSI	2.4km east	97.23 hectares of a "Geographical Review Site". The large quarry has long been noted as the last remaining exposure of the famous Cretaceous 'Cambridge Greensand'.
Barrington Pit	SSSI	2.5km south east	A small 3.7 hectare site of national importance for its vertebrate fauna. The site is one of the richest and most important localities on the British Isles.
Eversden and Wimpole Woods	SAC	2.7km north west	A total of 56.20 hectares of a Special Conservation Area. A primary reason for this designation is a large summer maternity roost of barbastelle bats.
L-moor, Shrepreth	SSSI	3.7km south east	A moderately sized 6.1 hectare floristically diverse and rich grassland communities which have largely developed on calcareous alluvium. Scattered scrub, hedgerows and trees can also be found on site.
Kingston Wood and Outliers	SSSI	4.3km north west	Kingston Wood and Outliers is a 49 hectare site of ash-maple ancient woodland type. It is one of the largest and most intact Medieval coppice woodlands in the county.
Melwood	LNR	4.6km south east	0.55 hectares of open woodland, dense thicket, riverside habitat, an open grassy ride and lots of mature trees. Pipistrelle (<i>Pipistrellus pipistrellus</i>) bats are common.
Kingston Amenity Area	LNR	5.9km north west	A small 1.97 hectare site containing woodland, scrub and seasonal wetlands.
Fowlmere Watercress Beds	SSSI	6.2km south east	The Fowlmere Watercress Beds is a 38.9 hectare site of one of a few relic fen habitats within an intensively farmed region. Other types of woodland and scrubland on site provides breeding habitat for nightingale (<i>Luscinia megarhynchos</i>).
Hayley Wood	SSSI	6.6km north west	A large 52.1 hectare wood and is the largest oxlip wood on the chalky Boulder Clay in Britain. Predominantly a coppice-with-standards of field maple (<i>Acer campestre</i>) and hazel (<i>Corylus avellana</i>). Rides and grassland tracks, including ponds are also present within the woodland.

Site Name	Designation	Distance from Site	Description
Holland Hall (Melbourn) Railway Cutting	SSSI	6.8km south	A rather small 3.5 hectare Railway Cutting with chalk slopes and grassland with rich floral communities. Wild candytuft (<i>Iberis amara</i>), a nationally uncommon plant.
Hardwick Wood	SSSI	6.9km north	A 16.9 hectare ash-field maple woodland that contains two species, oxlip (<i>Primula elatior</i>) and primrose (<i>Primula vulgaris</i>). This is a woodland type that is restricted to east Anglia. The wood is bounded by agricultural ditches.

Appendix B: Non-Statutory designated wildlife sites within 2km

Site Name	Designation	Distance from Site	Description
Orwell Hill RSV	CWS	755m north	A 1.33 hectare site supporting a population of nationally scarce vascular plant species (<i>Trifolium ochroleucon</i>).
Wimpole Park	CWS	2km west	A 299.95 hectare site that qualifies under the invertebrate criteria 11.2c (number of dragonfly species), 11.3a (saproxylic beetles), 11.4a (water beetles) and 11.6a (an overall invertebrate index exceeding 500).

Appendix C: Flora list identified during the walkover survey

Common Name	Scientific Name
Ash	<i>Fraxinus excelsior</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Dog rose	<i>Rosa canina</i>
Dock	<i>Rumex obtusifolius</i>
English oak	<i>Quercus robur</i>
Field maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Ivy	<i>Hedera helix</i>
Nettle	<i>Urtica dioica</i>
Rose bay willow herb	<i>Epilobium angustifolium</i>
Sycamore	<i>Acer pseudoplatanus</i>
Teasel	<i>Dipsacus fullonum</i>
Thistle sp.	<i>Cirsium sp.</i>
Vine sp.	<i>Vitis sp.</i>

Appendix D: Bird list identified during the walkover survey

Common Name	Scientific Name
Blackbird	<i>Turdus merula</i>
Blue tit	<i>Cyanistes caeruleus</i>
Carrion crow	<i>Corvus corone</i>
Dunnock	<i>Prunella modularis</i>
Fieldfare	<i>Turdus pilaris</i>
Great spotted woodpecker	<i>Dendrocopos major</i>
Great tit	<i>Parus major</i>
Jackdaw	<i>Corvus monedula</i>
Meadow pipit	<i>Anthus pratensis</i>
Pheasant	<i>Phasianus colchicus</i>
Redwing	<i>Turdus iliacus</i>
Rook	<i>Corvus frugilegus</i>
Song thrush	<i>Turdus philomelos</i>
Starling	<i>Sturnus vulgaris</i>
Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>