JAMES BLAKE ASSOCIATES

Preliminary Ecological Appraisal

of

Land at Buntingford West,

Hertfordshire,

on behalf of

Vistry Group Ltd.

March 2020

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Job Number: JBA 17/316	JAMES BLAKE ASSOCIATES **Title:** Preliminary Ecological Appraisal of Land at Buntingford West Hertfordshire

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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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CONTENTS

Non-technical Summary

Site:	Land at Buntingford, Buntingford West
Ordnance Survey National Grid Reference:	TL 358 288
Report Commissioned by:	Vistry Group Ltd.
Date of Walkover Survey:	12th March 2020

Considerations	Description	Potential impacts and timing
Statutory designated wildlife areas within 7km of the site:	Three Sites of Special Scientific Interest (SSSI).	The site is within several Impact Risk Zones for SSSI's. However, the site is unlikely to meet the qualifying criteria for consultation between the Local Planning Authority and Natural England.
Non-statutory designated wildlife sites within 2km of the site:	Eleven Local Wildlife Sites (LWS).	Due to the size of the proposed development site, mitigation may be required in the form of providing circular routes on site for recreational activities.
Results of walkover survey:	The site is considered suitable to support bats, badger, hedgehog, reptiles, breeding birds. The site is considered to be of 'moderate' habitat value for foraging and commuting bats.	-
Phase 2 surveys:	Badger survey.	Six months prior to development works. Optimal period for badger survey is between February to April or in September.
	Reptile survey.	Reptile surveys can be undertaken from mid-March to mid-October in 'suitable weather conditions'.
	Bat activity survey	Six survey visits undertaken between April and October.

Considerations	Description	Potential impacts and timing
	Breeding bird survey	The survey consists of four survey visits between March and June (one visit per month).
Phase 2 surveys dependent on final layout:	Bat emergence/return to roost survey.	Up to three survey visits undertaken from May to August.
Precautionary measures:	Vegetation removal	Outside of the nesting bird season or following a clear nesting bird check. Nesting season is March to mid-August. Scrub should be cut to 20cm using hand-held tools and checked for hedgehogs.
	Rabbit holes.	Precautionary measures for removing soil/vegetation near holes.

1 Introduction

Background

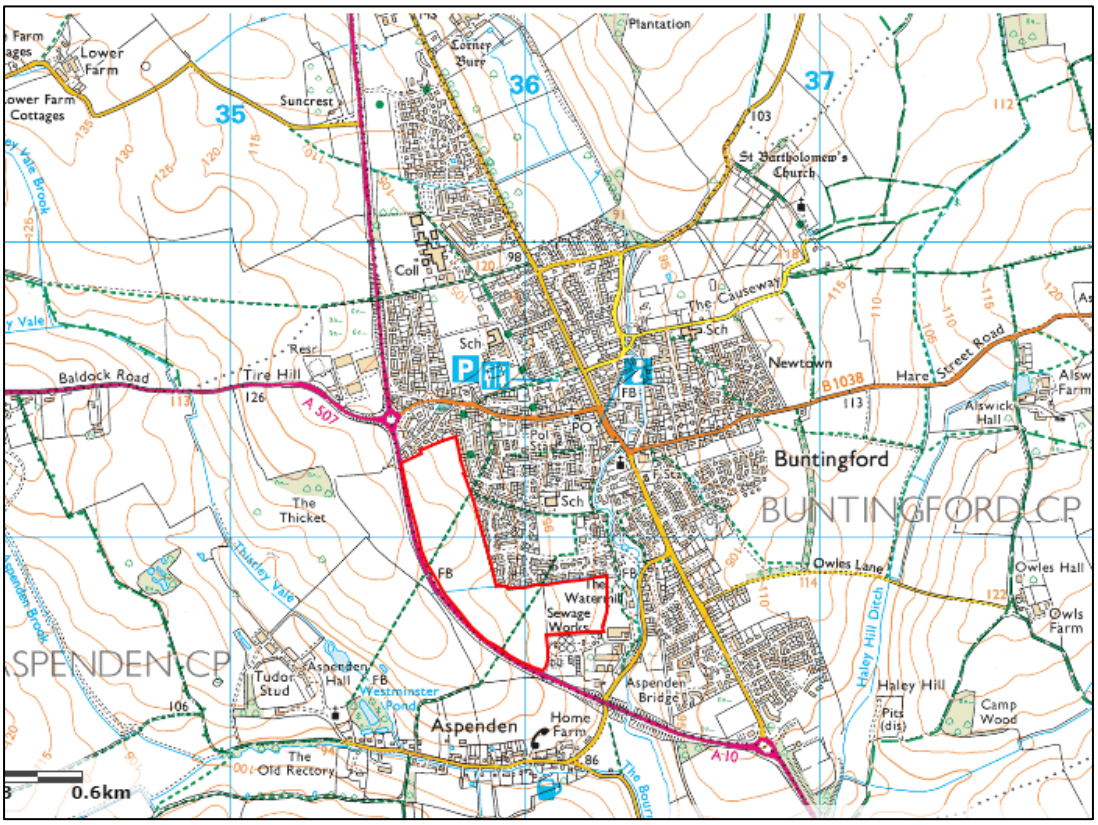
1.1 James Blake Associates Ltd. was commissioned by Vistry Group Ltd. to undertake a Preliminary Ecological Appraisal of land at Buntingford, Buntingford West (Ordnance Survey National Grid ref TL 358 288, taken from the centre of the site).

1.2 The assessment was required to accompany a planning application for the development of residential dwelling units and associated infrastructure.

Site Description

1.3 The site is approximately 20 hectares in size and is located to the west of Buntingford and east of the A10. The wider landscape includes the town of Buntingford, residential and commercial buildings and arable land (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 (Amendment) (EU Exit) Regulations 2019, ('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 Herts 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 4th March 2020).

2.2 The site is covered by the Local Biodiversity Action Plan (LBAP) for Hertfordshire which was consulted as part of the desk study.

2.3 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

2.4 The survey was undertaken by Sam Rigg BSc (Hons) ACIEEM (Natural England Bat Class Licence CL17 and Natural England Great Crested Newt Class Licence CL08) and Daniel Blake BSc (Hons) Qualifying CIEEM on the 12th March 2020.

2.5 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).

2.6 **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).

2.7 **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).

2.8 **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 March 2020. 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 March, 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 Three 'Sites of Special Scientific Interest' (SSSI) were identified within 7km of the site. Statutory designated sites are detailed in Appendix A.

3.2 The proposed residential development is within several Impact Risk Zones (IRZ's) for SSSI's; however it does not meet the qualifying criteria for consultation between the Local Planning Authority and Natural England.

Non-Statutory Designated Wildlife Sites

3.3 There were eleven non-statutory designated wildlife sites identified within 2km of the site; all of which are Local Wildlife Sites (LWS). These are detailed in Appendix B.

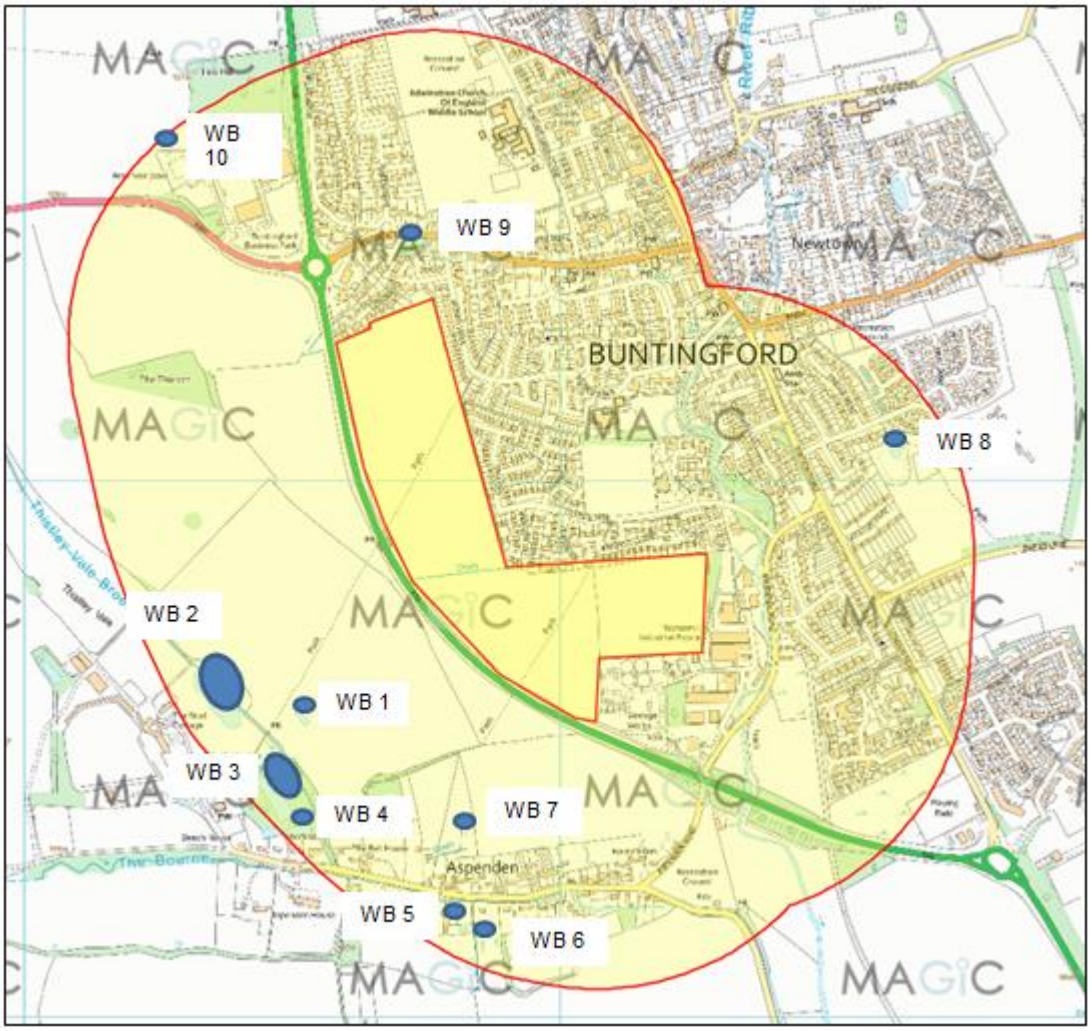
3.4 There is limited access to the majority of LWS within 2km of the site, however there is some access via public footpaths. Due to the size of the proposed development site, mitigation may be required in the form of providing circlular routes on site for recreational activities such as dog walking.

Ponds within 500m

3.5 Ten waterbodiess (WB) with multiple drainage ditches were identified within 500m of the site boundary (Figure 2).

3.6 All ponds located to the west of the site are considered to be ecologically separated due to the A10 which acting as a significant barrier. WB 8 is also considered ecologically separated due to the River Rib.

Figure 2: Ponds within 500m of the site boundary



Habitat Types within 2km

3.7 Habitat types within the area include: coastal and floodplain grazing marsh, good quality semi-improved grassland, deciduous and broadleaved woodland and coppice. Habitat types are shown on Figure 3. The nearest broadleaved woodland is located 110m north east with coastal and floodplain grazing march 275m south east.

Figure 3: Habitat types within 2km of the site

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Protected, priority and rare species within 2km of site

3.9 There were records of protected and priority species located within 1km of the site, however, the data provided was not accurate enough to determine the exact locations of species. 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.

3.10 European badger was recorded in 2017, within 2km of the site boundary.

3.11 Within the desk study, a common pipistrelle (*Pipistrellus pipistrellus)* roost was recorded within 2km east of the site in 2013 and by field observations 260m east in 2015. A soprano pipistrelle (*Pipistrellus pygmaeus)* roost was recorded within 2km east in 2013 and by field observations 385m east in 2014. Brown long-eared bat (*Plecotus auritus)* roosts were also highlighted in the desk study within 1.4km east in 2013 and by field observations within 2km in 2016. Lesser noctule (*Nyctalus leisleri*) roost 380m east in 2017, western Barbastelle (*Barbastella barbastellus)* was recorded 680m north in 2017, noctule (*Nyctalus noctula*) was recorded 680m north in 2014, Daubenton's bat (*Myotis daubentonii*) was recorded within 2km in 2017, Natterer's bat (*Myotis nattereri*) within 2km in 2017.

3.12 Hedgehog (*Erinaceus europaeus)* has been recorded on multiple occasions. The most recent record was from 2015, 1.5km east of the site.

3.13 Brown hare (*Lepus europaeus*) were identified within 2km of the site. The most recent records are from 1.6km south in 2015.

3.14 Nine WCA schedule 1 bird species were identified within 2km of the site; including brambling (*Fringilla montifringilla*), peregrine (*Falco peregrinus*), red kite (*Milvus milvus*), barn owl (*Tyto alba*) and redwing (*Turdusiliacus*).

3.15 26 Red listed bird species were identified within 2km of the site; including corn bunting (*Emberiza calandra)*, fieldfare (*Turdus pilaris*), mistle thrush (*Turdus viscivorus*), linnet (*Carduelis cannabina*), starling (*Sturnus vulgaris*) and yellow wagtail (*Motacilla flava*).

3.16 Twenty-two Amber listed bird species were also identified within the desk study; including bullfinch (*Pyrrhula pyrrhula*), dunnock (*Prunella modularis*), tawny owl (*Strix aluco*), short-eared owl (*Asio flammeus),* swift (*Apus apus*) and grey plover (*Pluvialis squatarola*).

3.17 Slow worm *(Anguis fragilis)* was also recorded in 2013 within the site boundary.

3.18 GCN was identified within 2km of the site boundary. The most recent record is from 2015, 1.8km north.

3.19 Small heath butterfly (*Coenonympha pamphilus*) which are UK BAP and 'near threatened' RDB species have been recorded within 2km of the site boundary in 2011. A latticed heath (*Chiasmia clathrate*) was also recorded within 2km of the site boundary in 2016 which is a UKBAP species.

3.20 *Lecanora horiza* lichen was identified 1.7km south east of site boundaries in 2014 which is a RDB 'near threatened' species.

Walkover Survey

3.21 The habitats on site were considered with respect to their potential to support protected species.

3.22 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 C. The baseline conditions reported and assessed in this document represent those identified at the time of the survey on 12th March 2020. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed.

3.23 The majority of the site comprises improved grassland. Other habitats present on site are scrub, hedgerows, wet and dry ditches, boundary trees and semi-improved grassland.

3.24 The following photographs in Table 2 show the Target Notes referred to in Figure 4.

Figure 4: Phase 1 Habitat Map

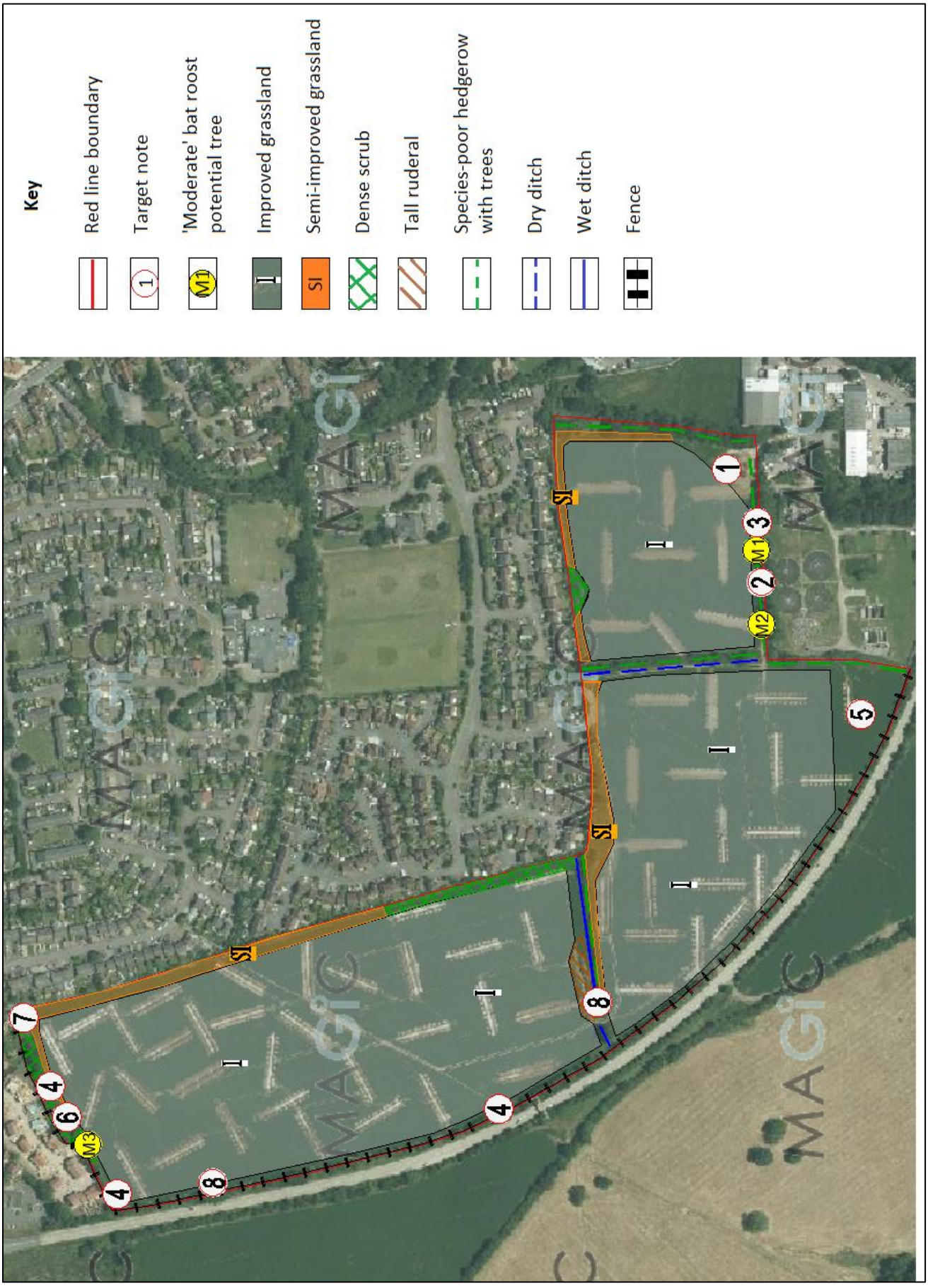

Table 2: Target Notes

Target Note	Description	Photo
1	Mound of wood chipping and horse manure.	
2	Rabbit (*Oryctolagus cuniculus*) activity.	 
3	Badger outlier sett.	
4	Chopped and dead wood throughout the site.	  

Target Note	Description	Photo
5	Construction/site activities at south western boundary.	
6	Bat box on northern boundary.	
7	Mound of earth with brash and grass cuttings.	
8	Nests located on and adjacent to site.	 

4 Protected Species – Results and Evaluation

Badger

4.1 The improved and semi-improved grassland on site provides foraging opportunities. The areas of boundary scrub on the site have the potential to provide suitable habitat for sett creation and sheltering.

4.2 A single outlier hole with no sign of recent activity was found amongst a rabbit warren on the south eastern boundary.

Bats

4.3 No buildings are present on-site. All trees on site were assessed from the ground for bat roosting evidence and potential. Three trees present within the site boundary were considered to provide 'moderate' bat roost potential (BRP). See Table 3 for bat roosting feature photographs (numbering corresponds to those seen in Figure 4).

4.4 The remaining 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, pealing bark or knot holes. A single bat box was present on a tree on the northern boundary.

4.5 Habitat on site was assessed as 'moderate' for foraging and commuting bats. There is good connectivity to the wider landscape by boundary vegetation. Semi-improved grassland and scrub within the site provided good foraging habitat, though this is limited.

Table 3: Photographs showing potential bat roost features

Potential bat roost features	Photo
M1: Cracked trunk and branches on the south western boundary.	
M2: Knot holes and cracked branches on the northernmost boundary.	
M3: Knot holes, cracked branched and cracked trunk to the north eastern boundary.	

Mammals - Other

4.6 The site is considered suitable for hedgehog due to boundary trees, scrub and semi-improved grassland providing shelter and foraging opportunities. No evidence of hedgehog was recorded during the walkover survey.

4.7 Evidence of rabbits was found throughout the site including a warren on the south eastern boundary.

Birds

4.8 Trees and scrub on site provide nesting and foraging opportunities for birds. The improved grassland is considered suitable for ground nesting birds. Nests on and adjacent to the site boundary were recorded during the walkover survey.

4.9 Bird species observed during the walkover survey included; skylark (*Alauda arvensis*), wood pigeon (*Columba palumbus*), blackbird (*Turdus merula*), great tit (*Parus major*),

blue tit (*Cyanistes caeruleus*) robin (*Erithacus rubecula*), house sparrow (*Passer domesticus*), starling (*Sturnus vulgaris*), rook (*Corvus frugilegus*), chaffinch (*Fringilla coelebs*) and magpie (*Pica pica*).

Reptiles

4.10 The site is considered suitable for reptiles due to the presence of scrub, brash and dead wood for shelter coupled with areas of semi-improved grassland and improved grassland for foraging.

Amphibians

4.11 Ten ponds were identified during the desk study search within 500m of the site boundary. Nine were considered ecologically separated from the site due to the A10 acting as a significant barrier. The remaining single pond (WB 9) was inaccessible during the survey due to private ownership; however, due to the built residential area between WB 9 and the site, it is considered unlikely that newts (if present) would enter the site from WB 9.

4.12 The sewage plants to the south east of the site were considered highly unlikely to support newts due to it still being active.

Invertebrates

4.13 The habitats on the site are unlikely to support a diverse assemblage of invertebrates. However, the scrub and areas of deadwood/brash could provide potential habitat for invertebrates such as small heath which was identified in the desk study.

4.14 No rare or protected invertebrate species were observed during the walkover.

Flora

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

4.16 Schedule 9 invasive plant species such as Japanese knotweed (*Fallopia japonica*) were not identified at the site during the walkover survey.

5 Evaluation, Legislation and Recommendations

5.1 Table 5 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 5: 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	The desk study identified three SSSI's within 7km of the site: • Moor Hall Meadows 3.3km south west; • Blagrove Common 5.2km north; and • Great Hormead Park 5.4km east.	The proposed development is within several IRZ's for SSSI's; however, it does not meet the qualifying criteria for consultation between the Local Planning Authority and Natural England if the proposals are for residential development.
Designated wildlife areas – non-statutory	The desk study identified eleven LWS within 2km of the site: • Downhall ley 130m south east; • Foxglade & Perryden, Aspenden 280m south west; • Porters Close 510m north east; • Wakeley Spring Green Lane (part) 610m south west; • Camp Wood 1.2km south east; • Buntingford Chalk Pit 1.1 km south east; • Corneybury Farm Area 1.3km west; • Alswick Hall Area 1.5km north west; • Westmill Bury Farm 1.6km south west; • Alswickhall Wood 1.7km west; and • Throcking churchyard 1.9km east.	Due to the size of the proposed development site, mitigation may be required in the form of providing circular routes on site for recreational activities.
Habitats	Habitats on the site comprise: • Improved grassland; • Semi-improved grassland; • Hedgerows; • Boundary trees; and • Scrub.	No habitats on site are NERC Priority Habitats. No further assessment required.
Badger	A single inactive outlier sett was present on site. Areas of scrub provide suitable for sett creation and the semi-improved grassland provides foraging potential. 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: • Kill, injure or take badgers; • Damage a badger sett or any part of it; • Destroy a badger sett;	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 / 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.

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
	• Obstruct access to, or any entrance of a badger sett; and • Disturb a badger whilst it is occupying a badger sett.	If the proposed works are likely to adversely impact a sett (if present), then a development licence would be necessary from Natural England prior to commencement.
Bats	Majority of trees within the site boundary are considered to have 'negligible' to 'low' BRP. However, three trees are considered to have 'moderate' BRP; • M1:cracked trunk and branches; • M2: knot holes and cracked branches; • M3: knot holes, cracked branches and a cracked trunk. The site was considered to have 'moderate' suitability for foraging and commuting bats 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 NERC Act as an SPI. 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. Bats are classed as 'European Protected Species' (EPS) and mitigation will typically be undertaken under the auspices of an EPS licence from Natural England.	If 'moderate' BRP trees are to be impacted in any way by the development, two surveys are required. The BCT Guidelines recommend a single emergence and a single re-entry survey for the trees. The optimum months for emergence and re-entry surveys are from May to August, although it is sometimes possible to survey in September if previous surveys have already been undertaken, weather permitting. Emergence surveys commence 15 minutes prior to sunset to up to two hours after sunset; re-entry surveys commence two hours prior to sunrise, to sunrise. Surveys would be undertaken using electronic bat detectors and observation aids. The number of surveyors is dependant on the proportion of potential exit/entry points of the tree for bats. If bats are discovered using the trees as a roost, works can only proceed under the auspices of a European Protected Species (EPS) licence granted by Natural England. Mitigation would be required to offset the loss of roost(s). Lighting may need to be a consideration with respect to foraging bats, particularly to the northern and southern boundary vegetation. 'Moderate' habitat for bats requires one survey visit per month (April to October) in suitable weather conditions. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
		period. Automated/static detectors should also be used in appropriate locations on site and left in situ for at least five consecutive nights.
Mammals - other	Numerous rabbit holes were found throughout the site. No evidence of hedgehogs was found during the walkover survey. The site provided good hibernation and foraging habitat for hedgehogs in scrub and semi-improved grassland. Hedgehogs are listed on Schedule 6 of the WCA which makes it illegal to kill or capture wild hedgehogs, with certain methods listed. The hedgehog is also a SPI under Section 41 of the NERC. 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.	Any ground works near rabbit holes should be done with care to avoid potential harm to rabbits. It is recommended that if scrub is to be removed then scrub areas should be cut to 20cm using hand-held tools (brushcutter/trimmer) and checked for hedgehog before removal. See Section 6 for enhancements.
Birds	Majority of habitats on site have the potential to support breeding birds. Nests were present on site during the walkover survey. The majority of the site is considered suitable for breeding birds. All wild birds while actively nesting are afforded legal protection under the WCA. 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. Combined legislation means that all birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to: a) intentionally kill, injure or take any wild bird; b) intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; c) intentionally take or destroy the egg of any wild bird; 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; 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	A breeding bird survey in accordance with BTO guidelines is recommended. The survey consists of four survey visits between March and June (one visit per month). 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. 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. If birds are found to be nesting, then no works should be undertaken within at least 10m of

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
	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.	the nest until chicks have fledged. **No vegetation removal should take place until all surveys are complete.**
Reptiles	Habitats on site are considered suitable for reptiles as the scrub areas offer shelter and hibernation opportunities; surrounding habitat is also favourable. Reptiles are afforded protection under Schedule 5 of the WCA from deliberate injury, killing and trade. They are also listed under Section 41 of NERC as an SPI.	Reptile surveys can be undertaken from mid-march to mid-October in 'suitable weather conditions' i.e. when the temperatures are between 9 and 18 °C with no or little rain. An initial visit would be required to lay reptile refugia (bitumen felts) in suitable habitat. These warm up in the sun and act as lures to reptiles and must be left for at least seven days to bed in. The felts would then be visited seven times on separate occasions to establish presence / likely absence of reptiles. If reptiles are found, then mitigation would likely involve trapping and translocating the reptiles to a specific designated area on the site and managed as such. The level of mitigation would depend upon the result of the survey.
Amphibians, particularly GCN	10 waterbodies were identified within 500m of the site boundary; all of which were considered to be ecologically separated from the site by significant barriers. Both aquatic and terrestrial habitat is protected under wildlife legislation. 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 NERC as a species of Principal Importance. GCN are classes as a 'European Protected Species' and any necessary mitigation is typically undertaken under the auspices of a licence from Natural England.	No further surveys recommended.
Invertebrates	The habitats on site are unlikely to support a diverse assemblage of invertebrates. However, areas of scrub can be used by a small number of invertebrates, such as butterflies.	No further surveys recommended. See Section 6 for enhancements.

Ecological Receptor	Summary of desk and walkover survey findings and relevant legislation	Likely impact and recommendations for further survey
Flora	The habitats on site are unlikely to support any rare or protected flora. No Schedule 9 invasive plant species were identified on site. Invasive plant species such as Japanese knotweed are listed on Schedule 9 of the WCA. Schedule 9 includes certain plants that have become established in the wild in Great Britain but which the law seeks to prevent spreading further. The WCA creates various offences, including allowing a Schedule 9 plant to grow in the wild. Negligent or reckless behaviour such as inappropriate disposal, resulting in the plant becoming established in the wild also constitutes an offence. Depositing unauthorised 'controlled waste' (such as Japanese knotweed) is also likely to be a breach of Section 33 of the Environmental Protection Act, 1990. In the recent Court of Appeal decision in the case of *Network Rail Infrastructure Limited v Williams and Another* [2018], a landowner/occupier can be liable for failing to act reasonably to remove any Japanese knotweed after becoming aware of it and where it is foreseeable that it would damage neighbouring land.	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 for further survey and any mitigation measures arising from the surveys and the precautionary measures are followed in Table 5. 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, scrub and scattered trees at the boundaries of the site should be retained with a 4m buffer zone and enhanced to create corridors and shelter/foraging areas for wildlife including bats, birds, hedgehogs and small mammals.

6.4 The addition of standard bird boxes on retained trees and 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. A number of Schwegler Swift Bricks should also be installed on the periphery of the new builds.

6.5 The addition of bat boxes could also be installed on retained trees and 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.

6.7 'Hedgehog links' (i.e. 15cm diameter gaps at the base of fences) are recommended to enable small mammals to move through the development.

7 Conclusion

7.1 A Preliminary Ecological Appraisal was undertaken at Land at Buntingford West, Hertfordshire by James Blake Associates in support of a planning application for residential dwelling units and associated infrastructure.

7.2 The majority of the site comprises improved grassland with hedgerows, dry and wet ditches, boundary trees and scrub.

7.3 Further protected species surveys are recommended prior to development for reptiles, bats, birds and badgers.

7.4 If current development proposals impact trees identified to have 'moderate' BRP then further surveys for bats potentially roosting in these trees will be required.

7.5 If any mitigation or compensation measures recommended following these further surveys is carried out, and if the precautionary measures for birds and hedgehogs 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
Moor Hall Meadows	SSSI	3.3km south west	A 3.97 hectare The site comprises a group of grazing meadows on undrained boulder clay soils overlying the chalk of north-east Hertfordshire. The wood contains a rookery and Garden Warbler (*Sylvia borin*), Lesser Whitethroat (*S. curruca*) and Grasshopper Warbler (*Locustella naevia*). Small areas of standing water support great crested newt.
Blagrove Common	SSSI	5.2km north	A 5.04 hectare neutral grassland bisected by a stream. Several different colonies of orchid species are supported.
Great Hormead Park	SSSI	5.4km east	A 15.0 hectare ancient woodland with indicator species such as Dog's mercury and bluebell.

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

Site Name	Designation	Distance from Site	Description
Downhall ley	LWS	130m south east	Environment important for protected species.
Foxglade & Perryden, Aspenden	LWS	280m south west	Environment important for protected species.
Porters Close	LWS	510m north east	Environment important for protected species.
Wakeley Spring Green Lane (part)	LWS	610m south west	A 1.73 hectare ancient hedge and tree-lined green lanes supporting a good range of native woody species. Woody species such as Hazel (*Corylus avellana*), Spindle (*Euonymus europaeus*) and Field Maple (*Acer campestre*) are present and the ground flora supports typical flora of hedgerows
Camp Wood	LWS	1.2km south east	A 1.44 hectare ancient semi-natural coppiced woodland of Ash *(Fraxinus excelsior*), Field Maple (*Acer campestre*) and Hazel (*Corylus avellana*) with occasional Pedunculate Oak (*Quercus robur*) and Crab Apple (*Malus sylvestris*).
Buntingford Chalk Pit	LWS	1.1 km south east	A 2.29 hectare large disused chalk quarry lying on Boulder Clay with calcareous grassland/scrub and ephemeral ponds. Common Spotted-orchid (*Dactylorhiza fuchsii*) has also been noted on site.
Corneybury Farm Area	LWS	1.3km west	Environment important for protected species.
Alswick Hall Area	LWS	1.5km north west	Environment important for protected species.
Westmill Bury Farm	LWS	1.6km south west	Environment important for protected species.

Alswickhall Wood	LWS	1.7km west	A 4.05 hectare ancient semi-natural woodland. The ground flora supports woodland indicators with abundant Dog's Mercury (*Mercurialis perennis*) recorded plus species such as Bluebell (*Hyacinthoides non-scripta*) and Enchanter's Nightshade (*Circaea lutetiana*).
Throcking churchyard	LWS	1.9km east	A 0.45 hectare Churchyard with heavily mown but moderately species-rich old neutral grassland plus hedgerows and trees. Species present include Bird's-foot-trefoil (*Lotus corniculatus*), Common Knapweed (*Centaurea nigra*), Cowslip (*Primula veris*) and Common Sorrel (*Rumex acetosa*).

Appendix C: Flora list identified during the walkover survey

Common Name	**Scientific Name**
Ash	*Fraxinus excelsior*
Birch	*Betula sp*
Blackthorn	*Prunus spinosa*
Bramble	*Rubus sp*
Cleavers	*Galium aparine*
Common nettle	*Urtica dioica*
Cypress sp	*Cupressus sp*
Daffodil	*Narcissus pseudonarcissus*
Dandelion	*Taraxacum officinale*
Dock	*Rumex sp*
Dog rose	*Rosa canina*
Honey suckle	*Lonicera sp*
Ivy	*Hedera sp*
Lords and ladies	*Arum maculatum*
Sessile oak	*Quercus petraea*
Spear thistle	*Cirsium vulgare*
Teazel	*Dipsacus sp*
White dead nettle	*Lamium album*