



**Land at Draycott,
Cam:**

**Ecological
Survey Report**

Date: 8 July 2021

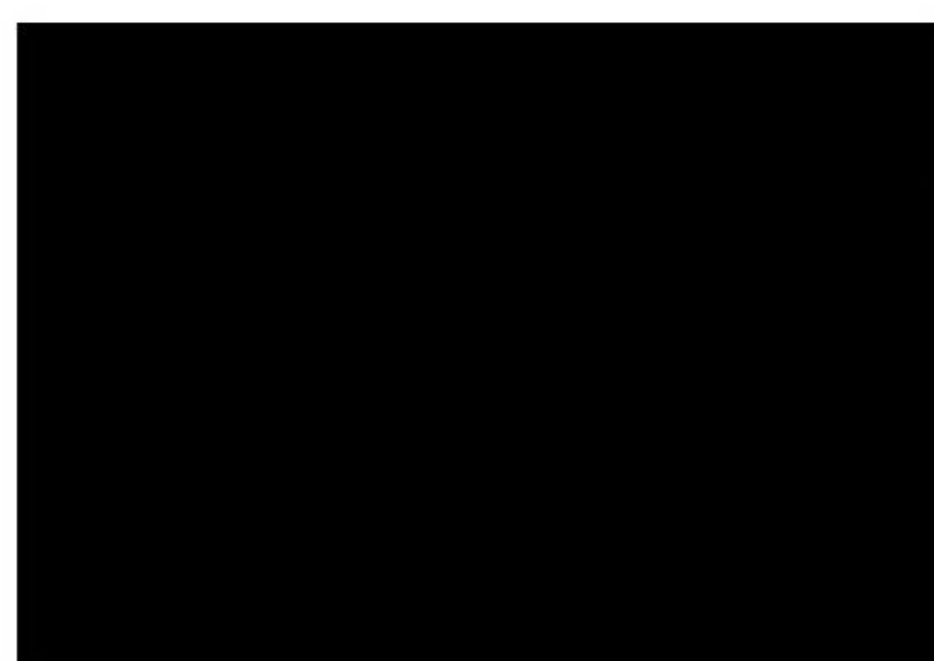
For: Persimmon Homes and
Robert Hitchins Ltd

Ref: eg20924

Revision: 00

Produced by:
Environmental Gain Ltd
The Old Church School
Frome
Bath
BA11 1HR

Author:



Reviewer:



www.engain.com

CONTENTS

ABBREVIATIONS	i
EXECUTIVE SUMMARY	ii
1 INTRODUCTION	1
2 LEGISLATION AND POLICY	2
Legislation	2
Relevant Policy	3
Development Plan Policy	3
3 METHODS	5
Desk Study	5
Habitat and Vegetation Surveys	5
Badger survey	5
Great Crested Newt Surveys	5
<i>Habitat Suitability Index Assessment</i>	5
<i>eDNA Survey</i>	6
Bat Surveys	6
<i>Ground Level Tree Assessment</i>	6
<i>Building Inspections</i>	6
<i>Bat Activity Surveys</i>	6
<i>Automated Static Surveys</i>	7
<i>Data Analysis</i>	7
Dormice	8
Reptiles	8
Birds	9
4 RESULTS	11
European Designated Sites	11
Nationally Designated Sites	13
Non-Statutory Designated Sites	16
Habitats	16
Amphibians	18
Badgers	18
Bats	18
Birds	26
Dormice	38
Reptiles	38
5 REFERENCES	41

ABBREVIATIONS

CIEEM	Chartered Institute of Ecology and Environmental Management
EPS	European Protected Species
Ha	Hectare
HSI	Habitat Suitability Index
Km	Kilometre
LPA	Local Planning Authority
m	Metre
MAGIC	Multi-Agency Geographic Information for the Countryside
PROW	Public Right of Way
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
UK	United Kingdom

EXECUTIVE SUMMARY

This report presents the results of baseline surveys carried out in connection with proposals for residential development on a series of agricultural fields west of Draycott, Cam in Gloucestershire.

The site consists of four large arable fields and five smaller pasture fields, all separated by a network of hedges with mature trees. The hedgerows and mature trees are the site's most ecologically valuable features and the remainder of the site (including the open fields) is of low ecological value.

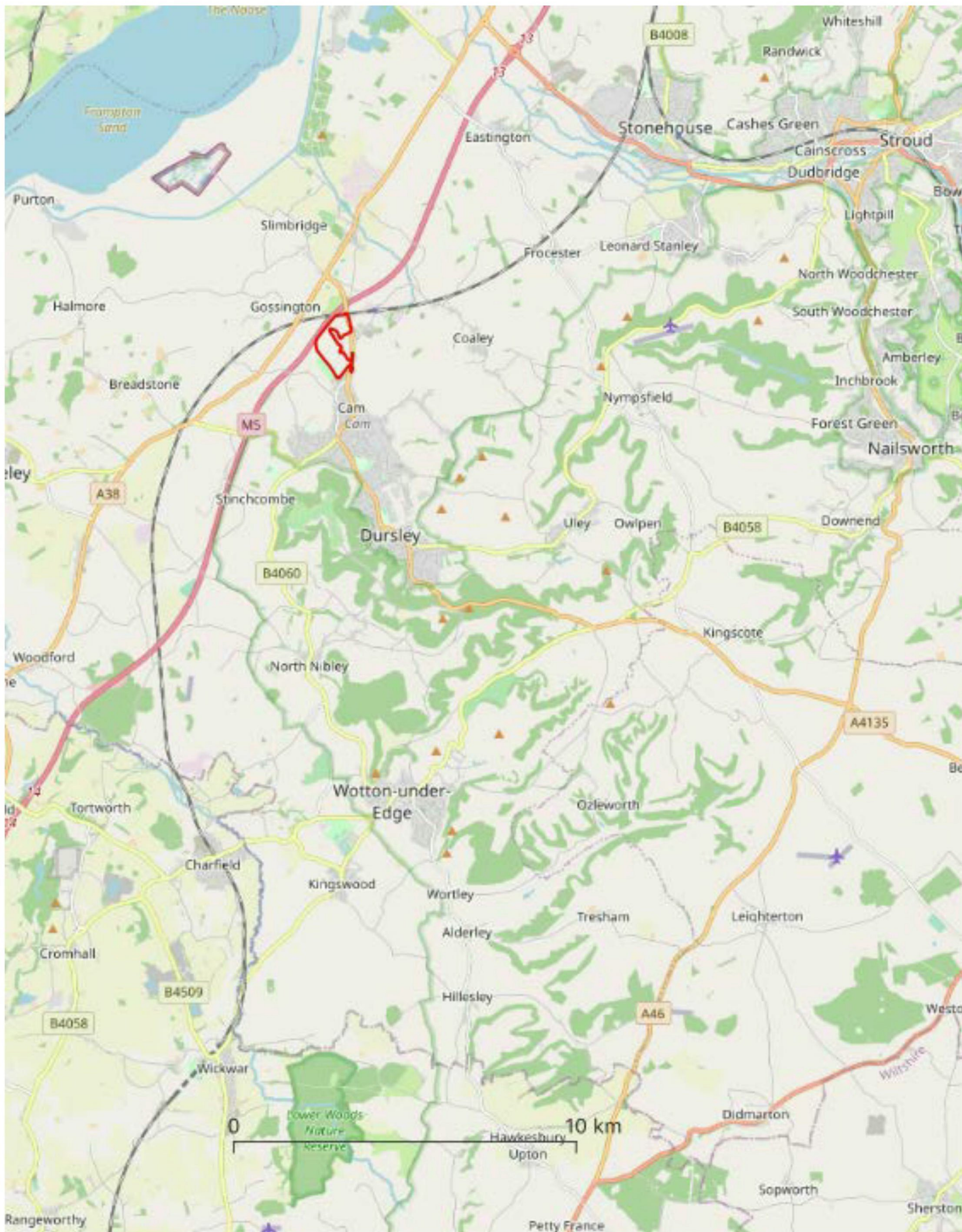
The closest and most relevant designated site is the Severn Estuary, approximately 4km away as the crow flies and 7km via the River Cam (which flows close to the development site but is isolated from it by built up areas). The potential effects of the proposed development on the Severn Estuary will require the application of mitigation and avoidance measures, using techniques that have been successfully employed for other developments in the region. Although the site is situated between a greater horseshoe roost at Woodchester Mansion (approximately 5km east of the site) and the Wye Valley and Forest of Dean Bat Sites Special Area of Conservation (approximately 13km west of the site), the landscape on and around the proposed development site and the results of the surveys indicate that it is not functionally linked to either of these sites. All other designated sites are sufficiently distant and isolated from the proposed development that they would not be affected.

The site is not used by dormice and is not regularly used by large numbers of reptiles, although small areas of the site may occasionally be used by small numbers of the commoner species.

There are two ponds within the site where great crested newts are present, and they are likely to use hedgerows and scrub within 250-500m of the pond as terrestrial habitat. Bats' use of the site is limited to the hedgerows and these are of greatest value in terms of foraging and commuting habitat for very small numbers of the rarest species *i.e.* greater horseshoe and barbastelle bats. At only ten and seven registrations respectively across the entire season, this is not a significant site for these or other species.

1 INTRODUCTION

- 1.1 This Ecological Survey Report has been prepared for Persimmon Homes and Robert Hitchins Limited in support of two planning applications for the development of land to the west of Draycott Cam as shown in Figure 1. The two applications will together provide for up to 950 dwellings; new primary school (if required) or 1,030 dwellings (if no on-site school); new access points and associated landscaping and infrastructure.
- 1.2 The detailed design and layout of the residential area is outside of the scope of the application.
- 1.3 Engain were first engaged to provide ecological advice in support of these applications in 2019 and have completed various surveys and assessments since then to inform the application and planning decision.
- 1.4 This report presents a comprehensive account of the surveys and results completed to date.



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

ON BEHALF OF

Persimmon / Robert Hitchins

PROJECT

Draycott, Cam

SCALE

NTS

PROJECT NO

eg20924

DATE

Jan 2021

APPROVED

MD

TITLE

Figure 1: Site Location Plan

2 LEGISLATION AND POLICY

Legislation

- 2.1 The two principal European Union Directives relating to nature conservation are the *Habitats Directive (1992)* and the *Birds Directive (amended 2009)*. Both directives are transposed into national legislation through the *Conservation of Habitats and Species (Amendment) Regulations 2017*.
- 2.2 The *Habitats Directive (1992)* protects certain species that are threatened across Europe and makes provision for the designation of wildlife conservation areas as Special Areas of Conservation. The *Birds Directive (1979)* makes provision for the designation of conservation areas for rare and vulnerable birds as Special Protection Areas.
- 2.3 European Protected Species are protected under the *Habitats Regulations*. It is an offence to:
- Deliberately capture or kill a European Protected Species;
 - Damage or destroy a breeding site or resting place of a European Protected Species; or
 - Deliberately disturb a European Protected Species in such a way as to be likely to significantly affect:
 - i) The ability of any significant group of animals of that species to survive, breed, rear or nurture their young; or
 - ii) The local distribution of that species.
- 2.4 The *Wildlife and Countryside Act 1981 (as amended)* provides protection to common reptiles at a UK national level. Additionally, all wild birds, their nests and young are protected through the *Wildlife and Countryside Act 1981 (as amended)* and it is illegal to kill, injure or take any wild bird, or damage or destroy the nest or eggs of breeding birds.
- 2.5 Badgers and their setts are protected under the *Protection of Badgers Act 1992* and by *The Hunting Act 2004*.

Land at Draycott, Cam: Ecological Survey Report

- 2.6 The *Natural Environment and Rural Communities Act 2006* extends the biodiversity duty set out in the *Countryside and Rights of Way Act 2000* to public bodies and statutory undertakers to take due regard to the conservation of biodiversity. Local planning authorities should ensure that there is no net loss of biodiversity on a site, no net loss in habitat connectivity and should always aim to enhance biodiversity.

Relevant Policy

- 2.7 The *National Planning Policy Framework* sets out the government's policies for the protection and enhancement of biodiversity through the planning system. The *National Planning Policy Framework* encourages the planning system to contribute to and enhance natural and local environments, through minimising the impacts on biodiversity and providing net gains in biodiversity where possible.
- 2.8 Local planning authorities are required to follow key principles in their consideration of potential impacts of planning decisions on biodiversity conservation. *Circular 06/05: Biodiversity and Geological Conservation* provides administrative guidance on the application of the law relating to planning and nature conservation and complements the *National Planning Policy Framework*.
- 2.9 The presence of species protected under UK and European legislation are a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Ecological assessments are required by planning authorities to inform the planning application.

Biodiversity 2020: A strategy for England's wildlife and ecosystem services provides national and local biodiversity strategies for England, based on the habitats and species listed under the *Natural Environment and Rural Communities Act*. Local biodiversity action plans give valuable information on local conservation priorities.

Development Plan Policy

- 2.10 The adopted development plan comprises Stroud Local Plan (2015). The site lies within the adopted Local Plan Severn Estuary SAC/SPA linear buffer where

Land at Draycott, Cam: Ecological Survey Report

further assessment of the impact of recreational pressure and potential mitigation is required in accordance with Delivery Policy ES6 and the adopted mitigation strategy.

2.11 Other Delivery Policies from the adopted Local Plan of specific relevance to the biodiversity and nature conservation include:

- ES7: Landscape Character, to the extent that natural features contribute to the setting of the Cotswolds AONB
- ES8: Trees, Hedgerows and Woodlands
- ES12: Better Design of Places, insofar as it relates to biodiversity in landscaped spaces and public realm
- ES13: Protection of Existing Open Spaces, relative to its contribution to biodiversity

3 METHODS

Desk Study

- 3.1 Desktop data were obtained Gloucestershire centre for Environmental Records (GCER) in May 2020. The search parameters were set at 2 km from the site for non-statutory designated wildlife sites and notable species records. The search was extended to 4km for bat records.

Habitat and Vegetation Surveys

- 3.2 Habitat and vegetation surveys were conducted in May 2020. The surveys included a Phase 1 Habitat Survey (Joint Nature Conservancy Council, 2010) and the identification of National Vegetation Classification (NVC) types (Rodwell, 1991 & 1992). The main habitat types were mapped using standard habitat colours. Target Notes (TN) were used to record the locations of specific habitats with potential for use by protected or notable species (such as trees with cavities suitable for roosting bats, stream corridors suitable for use by otters, disused manmade structures etc.), and any evidence of use by these species (feeding remains, mammal tracks, etc.).
- 3.3 Detailed species lists using the DAFOR botanical scale¹ were collated during the surveys. NVC types were identified with reference to these species lists and based

Badger survey

- 3.4 A systematic search for signs of badgers was originally conducted in May 2020. The surveys followed standard guidelines [REDACTED] and included a thorough search for setts or for signs of badger activity, including tracks, latrines, hairs and snuffle holes.

Great Crested Newt Surveys

Habitat Suitability Index Assessment

- 3.5 A search for potential water bodies was carried out on mapping and aerial photographs, and this was ground-truthed in the field. Habitat Suitability Index

¹ D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare.

Land at Draycott, Cam: Ecological Survey Report

(HSI) assessments were conducted on water bodies within 500m of the site (Figure 2).

- 3.6 The HSI assessment followed guidelines outlined in Advice Note 5 (ARG UK) and is based on methodology developed by Oldham *et al.* (2000). The HSI is a numerical index, between 0 and 1. Values close to 0 indicate unsuitable habitat, whilst 1 represents optimal habitat. The HSI for great crested newts incorporates ten suitability indices, all of which are factors known to affect this species. These comprise geographical location, pond area, permanence, water quality, shade, the presence of fish, pond count, terrestrial habitat and macrophytes.

eDNA Survey

- 3.7 Water samples were collected from suitable water bodies in July 2020 and sent off for analysis by Surescreen Scientifics.

Bat Surveys

Ground Level Tree Assessment

- 3.8 A ground level assessment of trees within the site was carried out in May 2020. The survey involved a search for potential roosting features in accordance with the relevant survey guidelines (Collins, 2016; Mitchell-Jones, 2004; and Mitchell Jones & McLeish, 2004).

Building Inspections

- 3.9 A collection of farm buildings (the only buildings within the site boundary) in the north-eastern part of the site were assessed for the suitability for roosting bats in July 2021. The buildings were assessed from the outside and inspected internally where access allowed, following the methods set out in Collins (2016).

Bat Activity Surveys

- 3.10 All bat activity surveys were carried out according to standard guidance (Collins, 2016; Mitchell-Jones, 2004; and Mitchell Jones & McLeish, 2004).
- 3.11 Bat surveys were carried out between April and October 2020. The dates of the transect surveys are given in Table 3-1.

**Land at Draycott, Cam:
Ecological Survey Report**

Table 3-1 2020 Bat Activity Transect Survey Details

Date	Start-End Time	Start Temp. (°C)	End Temp. (°C)	Weather Conditions
27 th April	20:26 – 22:56	14	14	W0 R0 C4
13 th May	20:53 – 23:00	12	11	W3 R0 C1
8 th June	21:23 – 00:00	14	14	W0 R0 C7
27 th July	21:05 – 23:35	20	18	W0 R0 C2
17 th August	20:26 – 22:56	21	19	W0 R1 C5
17 th September	19:18 – 21:48	16	14	W0 R1 C7
13 th October	18:20 – 20:50	9	8	W1 R0 C7

3.12 Dusk transect surveys began at sunset and continued for two and a half to three hours. The routes of the transects are shown in Figure 3. The transects were walked by two surveyors, walking in opposite directions.

3.13 Visual observations were supported by the use of ultra-sonic bat detectors.

Automated Static Surveys

3.14 Five static detectors (Anabat Express, Anabat SD2 and SM2) were installed at the site between April and October 2020 (Table 3-2 and Figure 3).

Table 3-2 Static Detector Deployments

Start Date	Collection Date	Number of Nights
29 th April	5 th May	5
13 th May	19 th May	6
3 rd June	8 th June	5
7 th July	13 th July	6
20 th August	25 th August	5
17 th September	22 nd September	5
14 th October	19 th October	5
Total Nights per Detector		37

Data Analysis

3.15 Species were identified from EMTouch recordings using the in-built auto-ID based on Kaleidoscope (Wildlife Acoustics Version 4.0.1) classifiers (verified by the experienced ecologist using the bat detector in the field). Heterodyne

Land at Draycott, Cam: Ecological Survey Report

recordings were identified by an experienced ecologist in the field at the time of the survey and confirmed afterward via playback of recordings and analysis with Bat Scan (Bat Box Ltd Version 9). EM3+ WAC files were converted to ZC files using Kaleidoscope.

- 3.16 Static detector data was analysed using Kaleidoscope Pro software. Myotis species identification was accepted but is treated with caution when analysing the results, and where in doubt all Myotis species are lumped together and it is assumed that some of the calls may be Bechstein's bats.

Dormice

- 3.17 The site was surveyed for dormice by setting out nest tubes in hedges and checking them regularly throughout the season. The surveys were carried out following survey methods outlined in The Dormouse Conservation Handbook (Bright, Morris & Mitchell-Jones, 2006).

- 3.18 A total of 100 nest tubes was set out across the site in April 2020 (Figure 4). The tubes were checked each month between May and October 2020. Using the criteria in Bright, Morris & Mitchell-Jones (2006) this gave a score of 44 – more than the 20 points required to reliably demonstrate presence or likely absence of dormice.

Reptiles

- 3.19 The site was surveyed for reptiles using 100 squares of roofing felt approximately 50cm square, which were set out around the field margins in April 2020.
- 3.20 The mats were checked regularly in suitable weather conditions between May and October 2020 (Table 3-3).

**Land at Draycott, Cam:
Ecological Survey Report**

Table 3-3 Reptile survey dates

Date	Start-End Time	Start Temp. (°C)	End Temp. (°C)	Weather Conditions
13/07/2020	11:30 – 13:30	21	21	W0 R0 C2
27/07/2020	15:30-17:00	20	17	W0 R0 C6
20/08/2020	11:00 – 13:30	19	20	W1 R0 C1
25/08/2020	12:00 – 14:00	17	18	W0 R0 C6
17/09/2020	15:00 – 16:45	16	16	W2 R1 C5
22/09/2020	11:30 – 13:30	20	20	W1 R0 C3
13/10/2020	12:00 – 14:00	12	13	W0 R0 C7

Birds

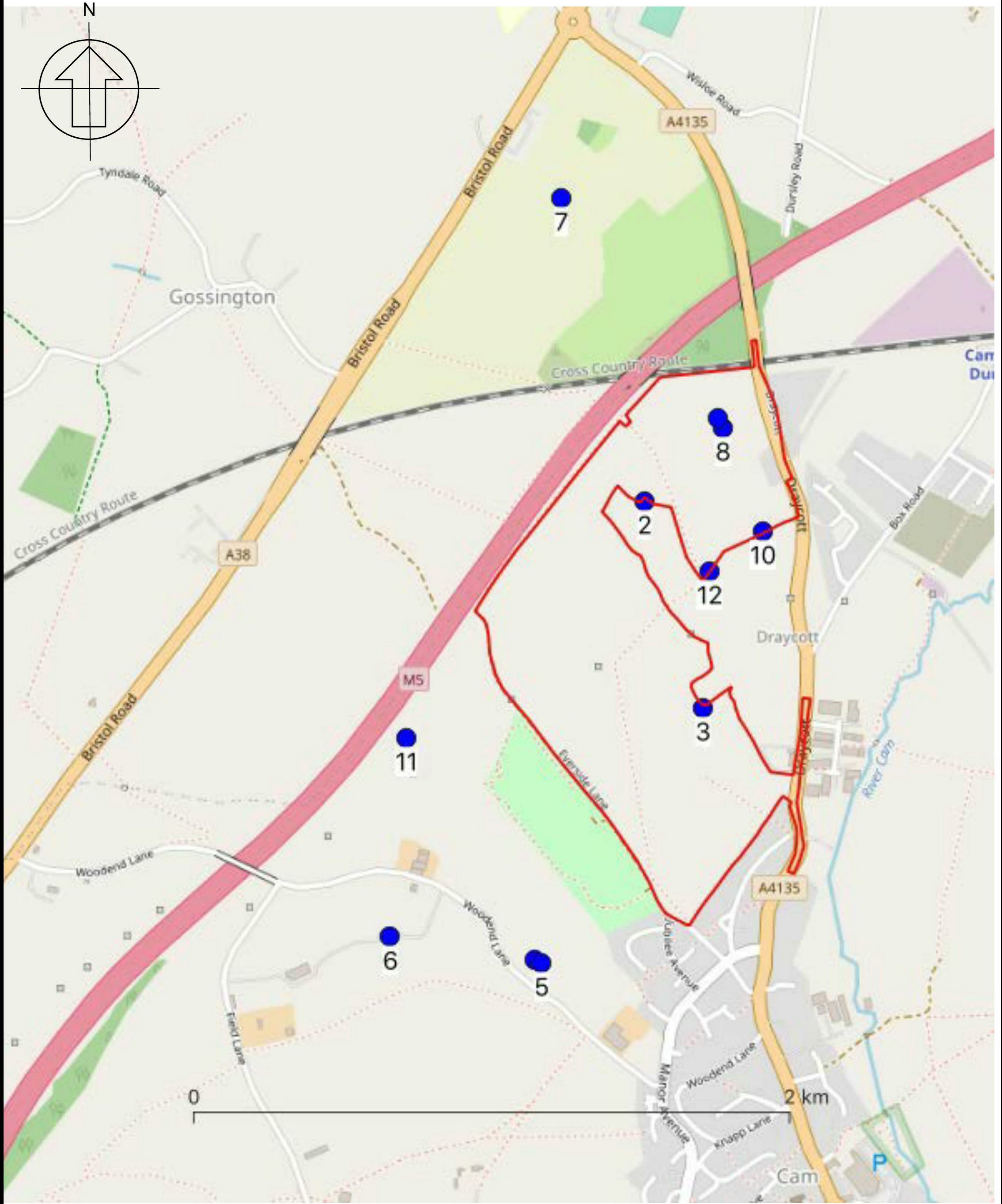
- 3.21 The suitability of the site for birds was assessed during the habitat surveys in April 2020. This visit was used to scope and target follow-up breeding bird surveys on 20th May and 9th June 2020.
- 3.22 Further surveys for birds in winter were carried out as per the schedule in Table 3-4. The site and adjacent buffer were surveyed via a circa 6km transect, with pauses to scan for birds, and via several observation points (Figure 5). The transect utilized Public Rights of Way (PROWs) and allowed observation of the entire site. At certain locations it was necessary to drive to observation points to view areas of the buffer. Fields 21 and 22 in the buffer were partially surveyed due to obscured sight lines.

Table 3-4 Winter Bird Survey Schedule

Date	Start	End	Wind (Beaufort)	Rain/snow	Cloud Cover	Visibility	Temp
10/02/2021	10:00	15:40	1 – 3 NE	0	4 - 7	Excellent	1 – 2.5°C
12/02/2021	09:50	15:00	1 – 4 NE	0	3 - 5	Excellent	1 – 3°C
15/02/2021	08:45	13:45	2 SW	0	4 - 8	Excellent	8 -11°C

Land at Draycott, Cam: Ecological Survey Report

- 3.23 The surveys followed the methodology for line transects outlined in Bird Census Survey Techniques (Gregory, Gibbons & Donald, 2004). This is the standard methodology used for breeding bird surveys adopted by the British Trust for Ornithology (BTO).
- 3.24 Standard codes provided by BTO were used to record species observed and Bird Atlas 2007-2011 breeding evidence codes were assigned to any specific behaviours indicating breeding within the site, including singing, displaying, nesting and incubation behaviour.
- 3.25 Observations during breeding bird surveys were collated to allow classification of species into the following categories:
- Non-breeding (observations of species flying over, suspected to be on migration or summering non-breeders);
 - Possible breeder (observations of species singing or present in suitable nesting habitat);
 - Probable breeder (observations of species in pairs displaying territorial or courtship behaviour, visiting probable nesting sites, agitated behaviour and nest building); and
 - Confirmed breeder (egg shells or nests, young or recent fledglings seen).



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

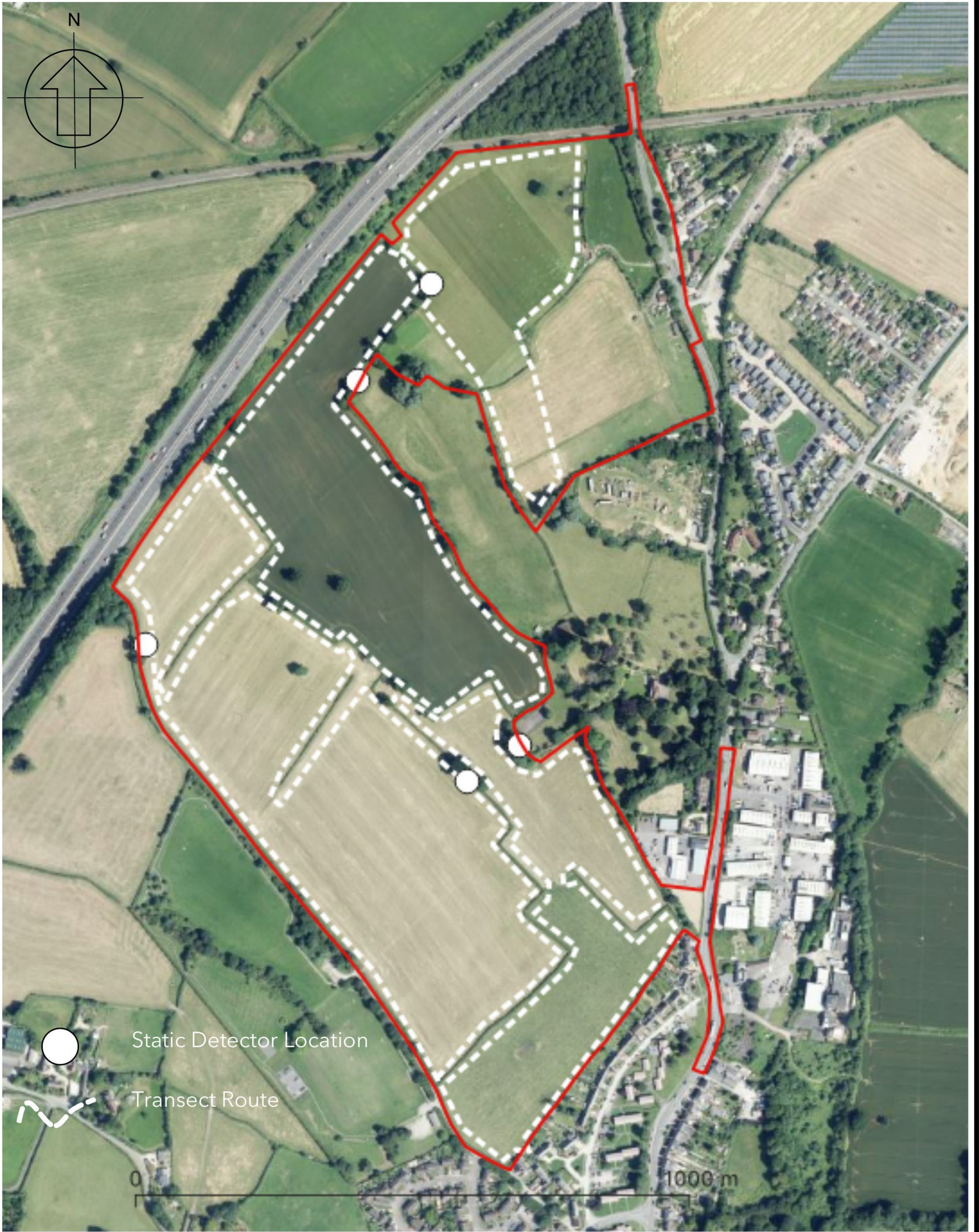
ON BEHALF OF
 Persimmon / Robert Hitchins

PROJECT
 Draycott, Cam

SCALE
 NTS
 PROJECT NO
 eg20924

DATE
 Jan 2021
 APPROVED
 MD

TITLE
 Figure 2: Potential Ponds within 500m



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

ON BEHALF OF

Persimmon / Robert Hitchins

PROJECT

Draycott, Cam

SCALE

NTS

PROJECT NO

eg20924

DATE

Jan 2021

APPROVED

MD

TITLE

Figure 3: Bat Survey Locations



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

ON BEHALF OF

Persimmon / Robert Hitchins

PROJECT

Draycott, Cam

SCALE

NTS

PROJECT NO

eg20924

DATE

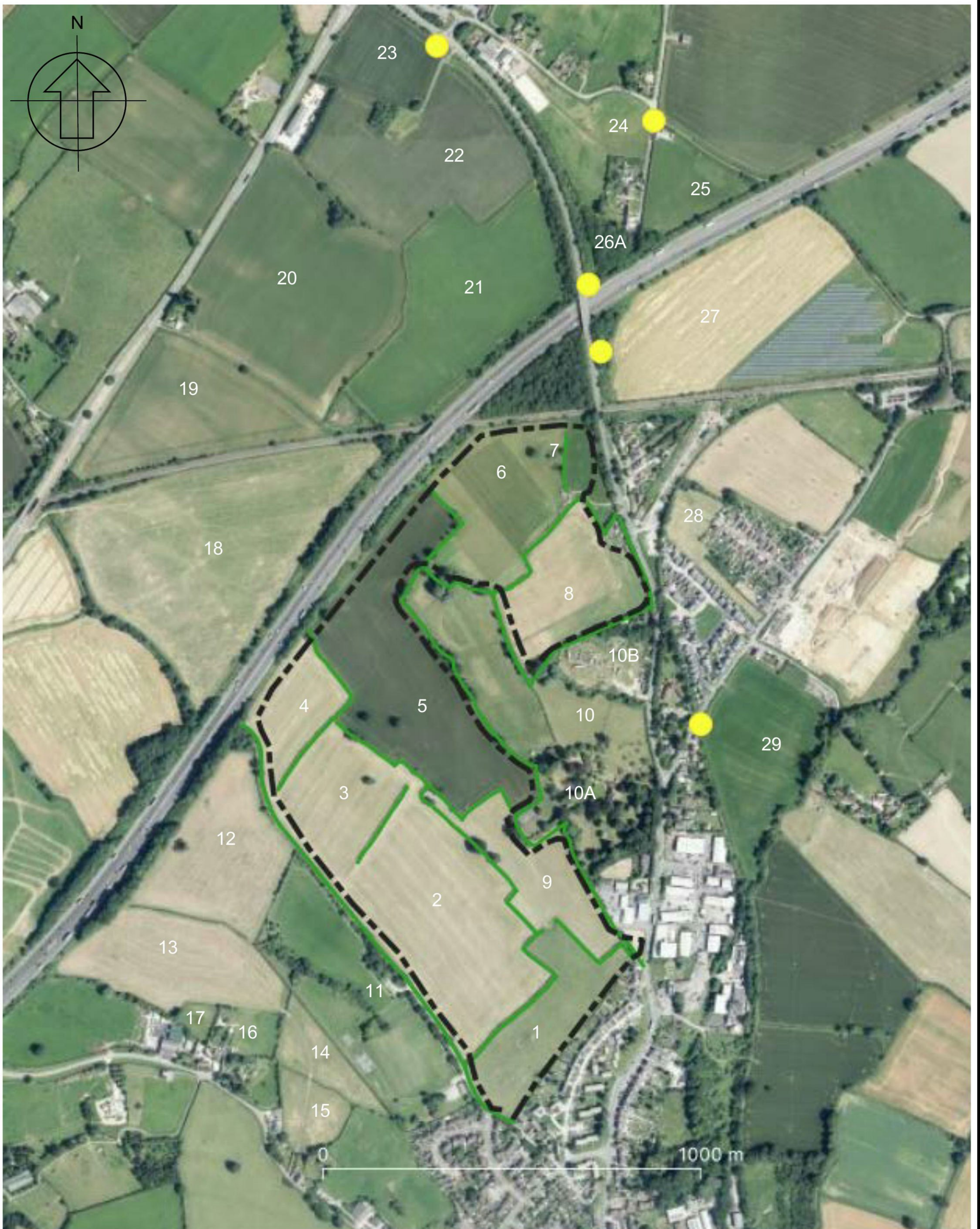
Jan 2021

APPROVED

MD

TITLE

Figure 4: Dormouse and Reptile Survey Locations



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

ON BEHALF OF

Persimmon / Robert Hitchins

PROJECT

Draycott, Cam

SCALE

NTS

PROJECT NO

eg20924

DATE

Jan 2021

APPROVED

MD

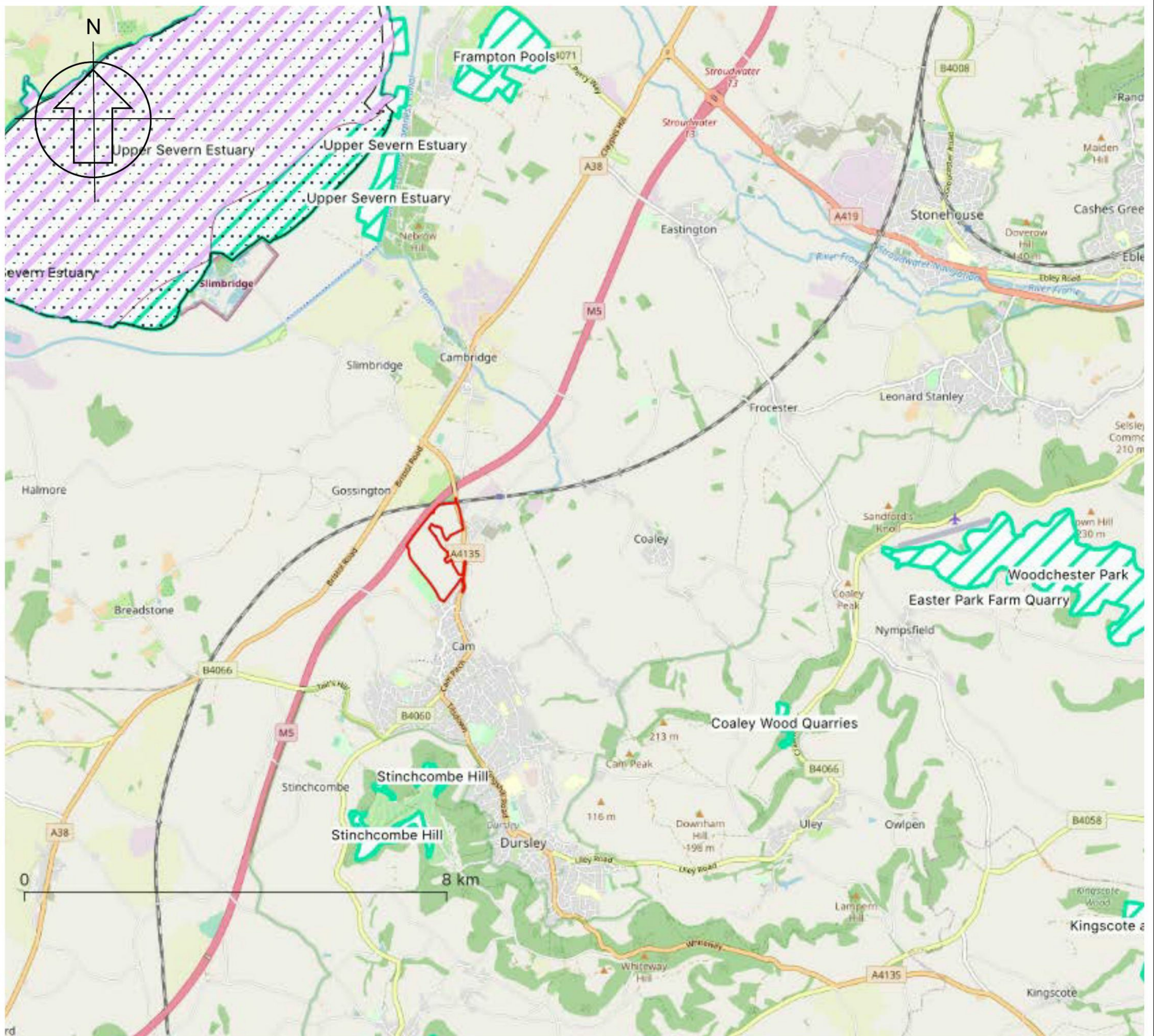
TITLE




Figure 5: Winter Bird Survey Locations

4 RESULTS

European Designated Sites

- 4.1 There are three European designated sites within 10km of the site (Table 4-1 and Figure 6).



-  Special Area of Conservation
-  Site of Special Scientific Interest
-  Special Protection Area



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk www.engain.com

ON BEHALF OF
 Persimmon / Robert Hitchins

PROJECT
 Draycott, Cam

SCALE
 NTS
 PROJECT NO
 eg20924

DATE
 Jan 2021
 APPROVED
 MD

TITLE
 Figure 6: Statutory Designated Sites

**Land at Draycott, Cam:
Ecological Survey Report**

Table 4-1 European Designated Sites within 10km of the Development Site

Site Name	Designation	Distance and Direction from Site	Qualifying Features
Severn Estuary	SAC	3.9km NW	<ul style="list-style-type: none"> • 1130 Estuaries • 1140 Mudflats and sandflats not covered by seawater at low tide • 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) • 1110 Sandbanks which are slightly covered by sea water all the time • 1170 Reefs • 1095 Sea lamprey <i>Petromyzon marinus</i> • 1099 River lamprey <i>Lampetra fluviatilis</i> • 1103 Twaite shad <i>Alosa fallax</i>
Severn Estuary	SPA & Ramsar	3.7km NW	<ul style="list-style-type: none"> • A037 <i>Cygnus columbianus bewickii</i>; Bewick's swan (Non-breeding) • A048 <i>Tadorna tadorna</i>; Common shelduck (Non-breeding) • A051 <i>Anas strepera</i>; Gadwall (Non-breeding) • A149 <i>Calidris alpina alpina</i>; Dunlin (Non-breeding) • A162 <i>Tringa totanus</i>; Common redshank (Non-breeding) • A394 <i>Anser albifrons albifrons</i>; Greater white-fronted goose (Non-breeding) • Waterbird assemblage
Rodborough Common	SAC	9.9km E	<ul style="list-style-type: none"> • 6210 Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>) (* important orchid sites)

**Land at Draycott, Cam:
Ecological Survey Report**

Nationally Designated Sites

- 4.2 There are five nationally designated sites within 10km of the development site (Table 4-2).

**Land at Draycott, Cam:
Ecological Survey Report**

Table 4-2 Nationally Designated Sites within 10km of the Site

Site name	Designation	Distance and direction from site	Reason for designation.
Stinchcombe Hill	SSSI	1.9km S	Biological: Stinchcombe Hill lies immediately west of Dursley and forms part of the Jurassic limestone scarp of the Cotswolds. The site is one of the series representing the semi-natural calcareous grasslands and associated scrub habitats of the Cotswolds. It consists of three discrete areas on the steep slopes of the Hill of varying height and aspect. These largely unmanaged areas support unimproved herb-rich grassland and scrub habitats with their associated fauna and flora. A number of rare and uncommon species are present
Upper Severn Estuary	SSSI	3.8km NW	Biological: A site of international conservation importance consisting of the uppermost part of the Severn Estuary and its marginal saltmarsh and pastureland. A wide range of estuarine habitats are represented and the site is of outstanding ornithological significance
Frampton Pools	SSSI	4.7km N	Biological: A good example of open water habitat in the Severn Vale. The site comprises of a number of lakes formed as a result of gravel extraction. Particular features of interest are the developing fauna and flora of the disused gravel pits. The site is of local importance for wintering wildfowl.
Coaley Wood Quarries	SSSI	4km SE	Geological: This has long been a famous geological site for the abundant fossils of Lower Jurassic age which occur here, in the stratum known as the 'Cephalopod bed'. One particular horizon is especially noted for the ammonites it contains, which are of great value in accurately dating the rocks.

**Land at Draycott, Cam:
Ecological Survey Report**

Site name	Designation	Distance and direction from site	Reason for designation.
Woodchester Park	SSSI	5km E	<p>Biological: The site occupies a secluded and sheltered valley running roughly east/west in the dip slope of the Cotswold escarpment near Nailsworth. It overlies Jurassic limestone and clays and supports a diverse fauna and flora associated with the grassland, woodland and wetland habitats that lie within the valley. The seclusion, shelter and range of habitats provide an unrivalled environment which is exploited by a nationally important breeding colony of greater horseshoe bats (<i>Rhinolophus ferrumequinum</i>) centred on the Mansion near the western end of the site. The valley is also of outstanding invertebrate interest.</p>

Land at Draycott, Cam: Ecological Survey Report

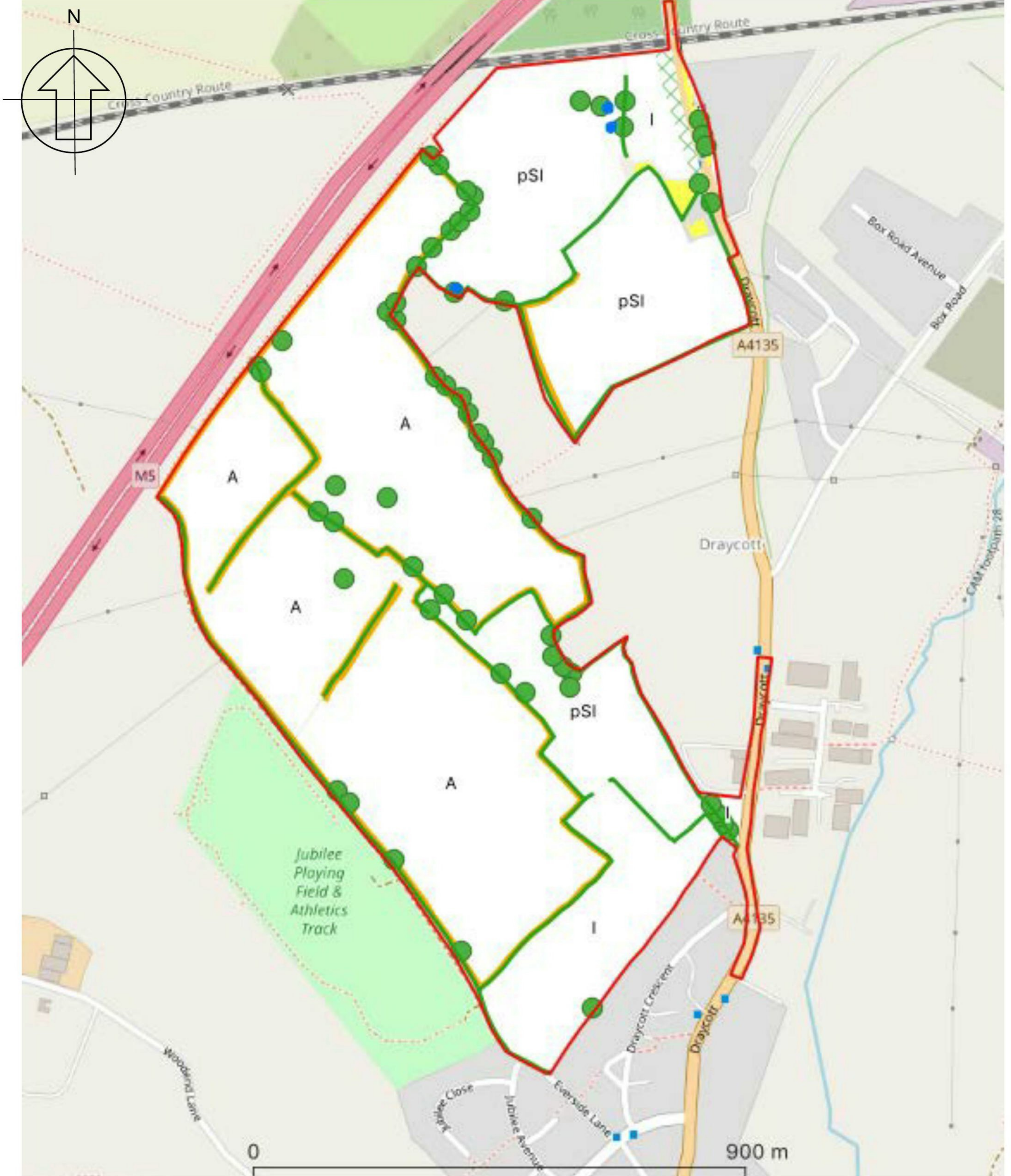
Non-Statutory Designated Sites

4.3 There are eight non-statutory designated sites within 2km of the site:

- Cam - Woodend Lane (319m from the site) is a toad patrol location with an associated water body
- Rackleaze Nature Reserve (437m from the site) has wet grassland, stream, pond and scrub. Part of Water Vole habitat corridor; potential toad.
- Cam - Field Lane (1.2km from the site) is a toad patrol location with an associated water body
- Coaley - Coaley Mill (1.4km from the site) is a toad patrol location with an associated water body
- Stinchcombe - Clingre Down and Tait's Hill (1.5km from the site) is a toad patrol location with an associated water body
- Sheep Path, Westfield & Bownace Woods Local Wildlife Site (1.6km away from the site) is semi-natural broad-leaved woodland site larger than 2 ha with a small limestone quarry in the middle
- Cambridge Old Canal (1.9km from the site) is a watercourse with water vole potential
- River Cam (part of unit 5) U and Cambridge Arm (1.9km from the site) is Water course with otter and water vole records.

Habitats

4.4 The pasture fields of the site consist of improved and species-poor, semi-improved swards, dominated by grasses with a limited component of broad-leaved herbs (Figure 7). The southernmost field in particular is heavily dominated by perennial rye-grass (*Lolium perenne*) and has very few



A	Arable Field		Hard Standing		Pond		Rough Grassland Field Margin
I	Species-poor Improved Grassland		Amenity Grassland		Hedgerow		
pSI	Species-poor Semi-Improved Grassland		Tree		Dry Ditch		



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

ON BEHALF OF
 Persimmon / Robert Hitchins

PROJECT
 Draycott, Cam

SCALE
 NTS
 PROJECT NO
 eg20924

DATE
 Jan 2021
 APPROVED
 MD

TITLE
 Figure 7: Habitat Map

Land at Draycott, Cam: Ecological Survey Report

associated broad-leaved herbs. The adjacent pasture field is slightly less agriculturally improved, and has a large amount of soft brome (*Bromus hordeaceus*) and meadow buttercup (*Ranunculus acris*). Neither field is a Priority Habitat (with reference to The Natural Environment and Rural Communities Act 2006) or a local conservation priority, as this vegetation type is almost ubiquitous across the region. The fields may however have some value for other wildlife, and this is described below.

- 4.5 The arable fields are largely sown with cereal crops and have very narrow field margins, which are heavily dominated by nutrient-loving plants including barren brome (*Anisantha sterilis*). Such nutrient-rich margins are unlikely to support any of the arable field-margin plants that are a conservation priority where they occur.
- 4.6 The boundary hedgerows are relatively uniform in character and are dominated by a mixture of elm (*Ulmus* species), hawthorn (*Crataegus mongyna*) and blackthorn (*Prunus spinosa*). Most of the hedges have between five and seven woody species on average per 30m section, with frequently occurring shrubs consisting of dogwood (*Cornus sanguinea*), field maple (*Acer campestre*) and elder (*Sambucus nigra*). The field-layer vegetation largely consists of nutrient-loving species and ivy (*Hedera helix*) although where the hedges face onto the pasture fields (and have consequently received less spray of fertiliser or herbicides), shade-tolerant species including bluebell (*Hyacinthoides non-scripta*), lords' and ladies' (*Arum maculatum*) and wood false-brome (*Brachypodium sylvaticum*) are present.
- 4.7 All of the hedges are regularly flailed, generally to a height of around 1.5m to 2m and around 1.5m wide. Many of the hedges have mature oak (*Quercus robur*) or ash (*Fraxinus excelsior*) trees with stem diameters of around 1m, indicating they may be around 100 plus years old. Several of them are veteran trees and one is an ancient field maple (*Acer campestre*) - T11 in the Tree Protection Plan.

Land at Draycott, Cam: Ecological Survey Report

- 4.8 All of the hedges (except for garden boundaries) qualify as a Priority Habitat, and several of them qualify as 'important' under the botanical criteria of *The Hedgerow Regulations 1997* (some may also qualify under the other wildlife or landscape criteria, which will be confirmed over the course of further survey work).

Amphibians

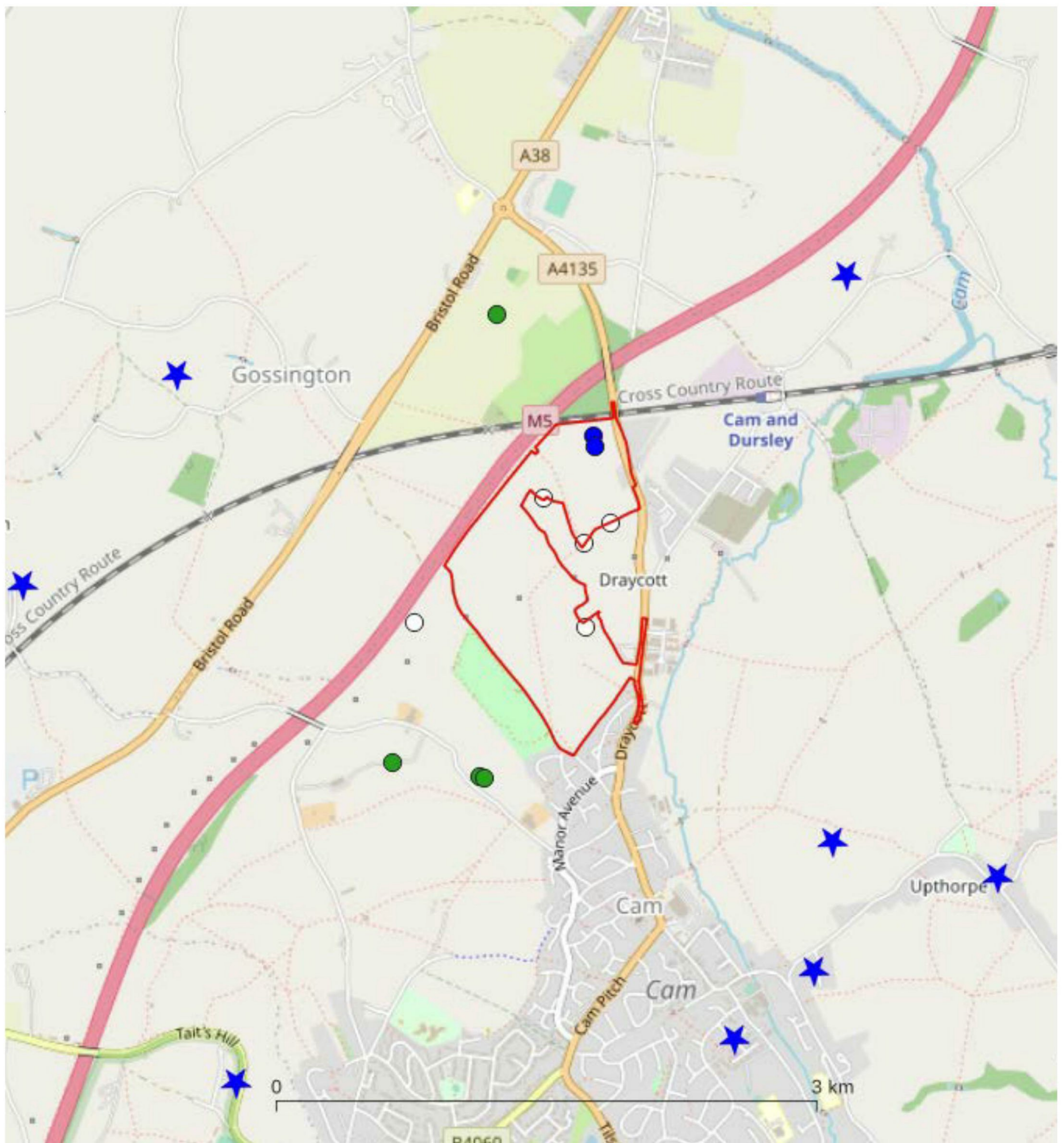
- 4.9 The desktop data contains records of common toad (*Bufo bufo*), common frog (*Rana temporaria*), palmate newt (*Lissotriton helveticus*), smooth newt (*Lissotriton vulgaris*) and great crested newt (*Triturus cristatus*) within 2km of the site.
- 4.10 There are three areas that hold water for at least part of the year within the site boundary. Two of these hold water for most of the year, whilst the third only holds water in winter.
- 4.11 The combined data from MAGIC map and surveys carried out for this project show that there are at least thirteen ponds within 500m of the site, of which three have confirmed records of great crested newts. There are several other confirmed great crested newt records in the surrounding landscape, but several of the nearby ponds were either dry at the time of the survey or have negative DNA results on MAGIC map (Figure 8).

Badgers

- 4.12 There are records of badgers in the data search but there are no badger setts on or adjacent to the Proposed Development.

Bats

- 4.13 The hedgerows and trees provide suitable foraging and commuting habitat for bats, and some of the mature trees have potential to be used as bat roosts.



- GCN Presence Confirmed During Survey
- ★ GCN Recorded as Present from MAGIC Map
- GCN Recorded as Absent from MAGIC Map
- Ponds Dry / Not Present During Surveys



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

ON BEHALF OF
 Persimmon / Robert Hitchins

PROJECT
 Draycott, Cam

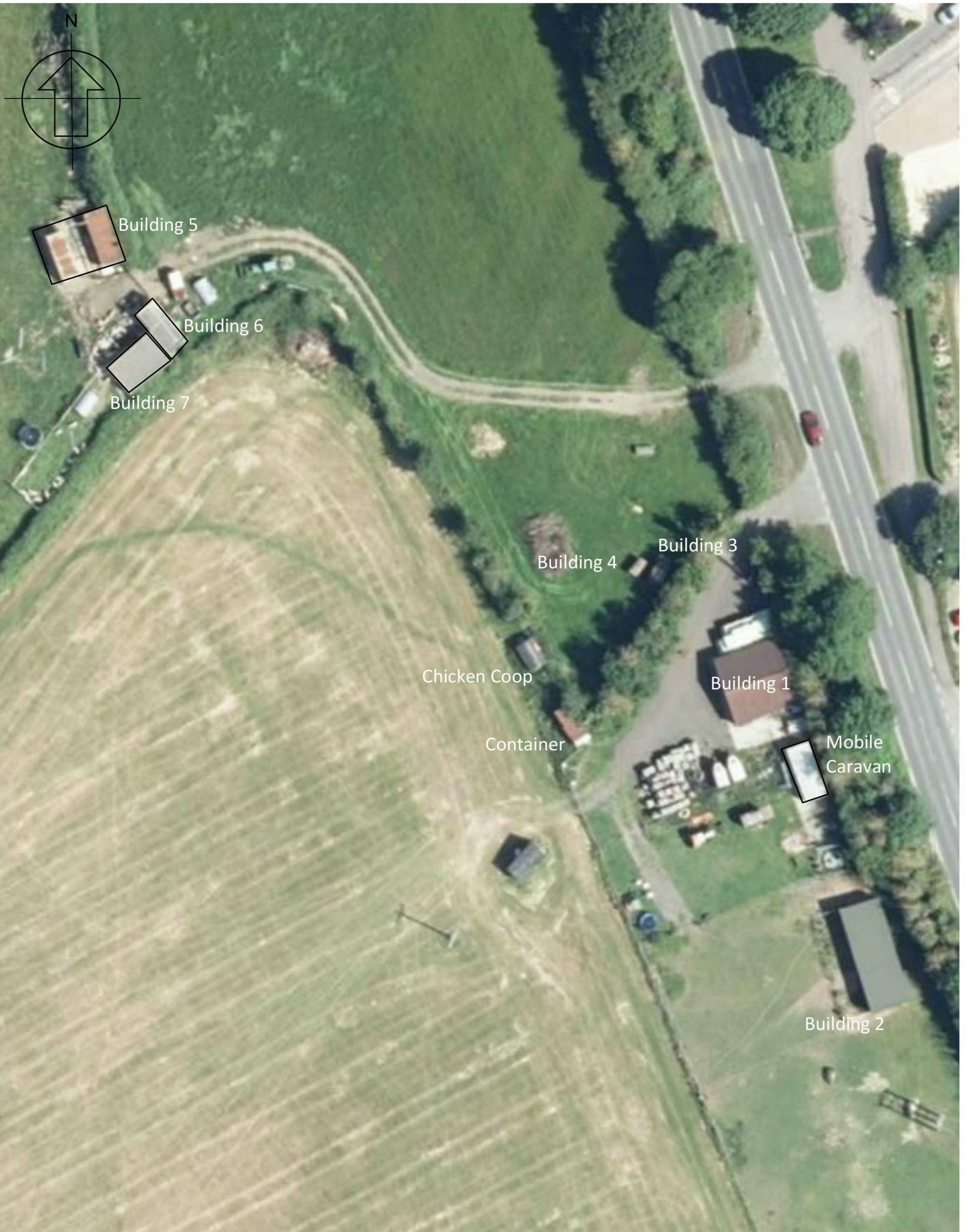
SCALE
 NTS
 PROJECT NO
 eg20924

DATE
 Jan 2021
 APPROVED
 MD

TITLE
 Figure 8: Great Crested Newt Records

Land at Draycott, Cam: Ecological Survey Report

- 4.14 All of the buildings within the site have either negligible or low/negligible suitability for roosting bats in accordance with the criteria as defined in Collins (2016). Details and descriptions of the buildings are provided in Table 4-3 below.



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

ON BEHALF OF
 Persimmon / Robert Hitchins

PROJECT
 Draycott, Cam




SCALE
 NTS
 PROJECT NO
 eg20924

DATE
 Jul 2021
 APPROVED
 MD




TITLE
 Figure 9: Building Inspection Map

**Land at Draycott, Cam:
Ecological Survey Report**




Table 4-3 Bat Roosting Potential of Buildings

Building Number / Name	Construction Materials	Potential Roosting Features	Roosting Suitability	Photograph
Building 1	Rendered walls with pitched and tiled roof. Wooden soffits on long elevations.	The structure is in good condition with no potential access points for bats	Negligible	
Mobile Caravan	Metal structure with flat roof	The structure is in good condition with no potential access points for bats	Negligible	
Building 2	Open barns (horse shelter & machinery storage) of metal sheet construction	The structure is in good condition with no potential roosting features for bats except behind OSB boards on one internal wall	Low/Negligible	


**Land at Draycott, Cam:
Ecological Survey Report**

Building Number / Name	Construction Materials	Potential Roosting Features	Roosting Suitability	Photograph
Building 3	Well maintained and sealed pigeon lofts/coop constructed of timber with fascia boards and soffits attached to flat roof	Small gaps under fascia and soffits	Low/Negligible	
Building 4	Well maintained and sealed pigeon lofts/coop constructed of timber with fascia boards and soffits attached to flat roof	Small gaps under fascia and soffits	Low/Negligible	
Chicken coop	Timber shed with pitched roof covered in metal sheet	None	Negligible	

**Land at Draycott, Cam:
Ecological Survey Report**

Building Number / Name	Construction Materials	Potential Roosting Features	Roosting Suitability	Photograph
Container	Wooden container with steel door and flat roof	None	Negligible	
Building 5	Open barn (for sheep) of metal sheet construction with containers either side	None	Negligible	
Building 6	Corrugated roof and wooden slat walls	None	Negligible	

**Land at Draycott, Cam:
Ecological Survey Report**

Building Number / Name	Construction Materials	Potential Roosting Features	Roosting Suitability	Photograph
Building 7	Corrugated roof, wooden slatted walls	Minor features around timber joints, but these are exposed to light and weather and unlikely to be used	Negligible	

Land at Draycott, Cam: Ecological Survey Report

- 4.15 The southern part of the site is partially affected by bright lights from the Draycott Business park, which illuminate many of the hedgerows (at least on their eastern faces) and the open fields at night. This reduces the suitability of these areas for the light-sensitive bat species such as horseshoe bats.
- 4.16 Bat activity recorded at the site is relatively low. The most commonly recorded species was common pipistrelle, and almost all observed bat activity was around the mature trees in hedgerows. The only activity observed over the open fields was of hawking species such as noctules (*Nyctalus noctula*). The following thirteen bat species have been recorded during the surveys:
- Barbastelle;
 - Common pipistrelle;
 - Soprano pipistrelle;
 - Nathusius' pipistrelle;
 - Brown long-eared;
 - Noctule;
 - Natterer's;
 - Serotine;
 - Whiskered;
 - Brandt's;
 - Daubenton's
 - Lesser horseshoe; and
 - Greater horseshoe.
- 4.17 There is no particularly strong seasonal pattern in the activity of bats at the site, with the exception of a strong seasonal peak of common pipistrelle activity in spring (May). The data from static detectors show that total registrations of bat calls per month did not vary substantially across the season (Table 4-4).

**Land at Draycott, Cam:
Ecological Survey Report**

Table 4-4 Static Bat Data

Species	Apr	May	Jun	Jul	Aug	Sep	Oct	Total
Barbastelle (<i>Barbastella barbastellus</i>)			2	2	2	4		10
Serotine (<i>Eptesicus serotinus</i>)		49	5	4	2	4	3	67
Brandt's (<i>Myotis brandtii</i>)				3		1	9	13
Daubenton's (<i>Myotis daubentonii</i>)		10		5	13	23	47	98
Whiskered (<i>Myotis mystacinus</i>)		8		10	2	1	29	50
Natterer's (<i>Myotis nattereri</i>)		4	2	4	1	6	11	28
Noctule (<i>Nyctalus noctula</i>)	12	209	43	49	6	35	43	397
Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>)		36	3	3	1	8	14	65
Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	106	1164	368	176	235	139	205	2393
Soprano pipistrelle (<i>Pipistrellus pygmaeus</i>)	2	91	53	12	13	43	94	308
Brown long-eared (<i>Plecotus auritus</i>)		22	3			16	11	52
Greater horseshoe (<i>Rhinolophus ferrumequinum</i>)			3	3	1			7
Lesser horseshoe (<i>Rhinolophus hipposideros</i>)		36	1				8	45
Total	120	1629	483	271	276	282	474	3535

Land at Draycott, Cam: Ecological Survey Report

- 4.18 Using the criteria in Wray (2010) the site's hedgerows would be classed as having Regional importance for the rarest bats (greater horseshoe and barbastelles), District importance for the commonest species (common and soprano pipistrelles plus brown long-eared bats) and County importance for the other species.
- 4.19 The site is just within the nominal 4km foraging range of greater horseshoe bats from one known roost, at Downhouse Farm, but outside of the range of the other roosts in this area, and it is not within the consultation zone for any Natura 2000 bat sites (Figure 10). It is not on any major linear landscape features (e.g. rivers, disused railway lines, woodland belts) and is next to an urban area, and as such it does not appear likely that it would be a major commuting route for horseshoe bats between roosts or territories. It also does not support high quality habitat for greater horseshoe bats (woodland or unimproved cattle-grazed pasture).
- 4.20 Considering the very small number of registrations of greater horseshoe bats on the static detectors and the limited value of the habitats, it is not considered likely that the site is functionally linked to the known roosts.
- 4.21 The low numbers of horseshoe bat registrations and the nature of the site also indicate that it is unlikely to be a key commuting route between the Woodchester Park SSSI and the Wye Valley and Forest of Dean Bat Sites SAC.
- 4.22 The proposed development will require the demolition of a number of buildings in the eastern part of the site. These comprise largely containers, barns, sheds and modern flat-roofed structures with negligible bat roosting potential. There is one dwelling with a single pitched, tiled roof, which has low bat roosting potential.

Birds

- 4.23 There are records of a large number of birds from the surrounding area, including some notable species, particularly as a result of records from Slimbridge wetlands centre to the north. However, the intensively farmed arable



Environmental Gain Ltd
 The Old Church School, Butts Hill
 Frome, BA11 1HR
 T: 01225 459 564
 enquiries@engain.co.uk

www.engain.com

ON BEHALF OF
 Persimmon / Robert Hitchins

PROJECT
 Draycott, Cam

SCALE
 NTS
 PROJECT NO
 eg20924

DATE
 Jan 2021
 APPROVED
 MD

TITLE
 Figure 10: Greater Horseshoe Bat Records

Land at Draycott, Cam: Ecological Survey Report

land and managed hedges are not likely to be of high value to the species of high conservation concern from those areas, and are most likely used by commoner farmland birds.

4.24 The following species were recorded as likely to be nesting on or adjacent to the site during the bird surveys of the site in 2020:

- Blackbird
- Blackcap
- Blue tit
- Chaffinch
- Chiff chaff
- Crow
- Goldfinch
- Great tit
- Greenfinch
- Long-tailed tit
- Song thrush
- Whitethroat
- Wood pigeon
- Wren

4.25 The following additional species were observed feeding or flying over the site:

- Buzzard
- Jackdaw
- Lesser black-back gull
- Raven
- Skylark
- Swift
- Tree sparrow

4.26 In winter the boundary hedges are used by mixed flocks of foraging passerines and flocks of winter migrants such as fieldfares. None of the open fields were

Land at Draycott, Cam: Ecological Survey Report

used by wintering flocks of gulls or waders, although large flocks of golden plover and lapwing were recorded using land on the other side of the M5 motorway. This suggests that whilst these wintering birds are present in the landscape the site, perhaps because of its intensive agricultural use and public access for dog walking, is not regularly used.

**Land at Draycott, Cam:
Ecological Survey Report**

Table 4-5 Birds recorded from the site in winter

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
1	Blackbird		2	2	BoCC4 – Green
1	Blue Tit		1	1	BoCC4 – Green
1	Carrion Crow		1		BoCC4 – Green
1	Dunnock		2	1	S.41, BoCC4 – Amber
1	Herring Gull	4			S.41, BoCC4 - Red
1	House Sparrow	7	3	12	S.41, BoCC4 - Red
1	Jackdaw		(7)	4	BoCC4 – Green
1	Redwing	1			Sch.1, BoCC4 - Red
1	Robin	1	1	1	BoCC4 – Green
1	Starling	(1)	14, (1)		S.41, BoCC4 - Red
1	Wood Pigeon	(4)			BoCC4 – Green
2	Blackbird	2	1	2	BoCC4 – Green
2	Black-headed Gull		(1)		BoCC4 – Amber
2	Carrion Crow	2	2	2	BoCC4 – Green
2	Dunnock			1	S.41, BoCC4 – Amber
2	Goldfinch			(5)	BoCC4 – Green
2	House Sparrow			4	S.41, BoCC4 - Red
2	Magpie	1			BoCC4 – Green
2	Pied Wagtail			(1)	BoCC4 – Green
2	Redwing	1, (7)	(2)	2 (2)	Sch.1, BoCC4 – Red
2	Song Thrush	(1)			S.41, BoCC4 - Red
2	Wood Pigeon	(3)	1	(1)	BoCC4 – Green
3	Blackbird			1	
3	Black-headed Gull		(1)		BoCC4 – Amber

**Land at Draycott, Cam:
Ecological Survey Report**

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
3	Goldfinch			(4)	BoCC4 – Green
3	Kestrel		(1)		BoCC4 – Amber
3	Lapwing		(3)		S.41, BoCC4 - Red
3	Skylark (singing over field)			(2)	BoCC4 – Red
4	Lesser Black-backed Gull		(1)		BoCC4 – Amber
4	Robin	1			BoCC4 – Green
5	Blackbird			4	BoCC4 – Green
5	Blue Tit		(3)	3	BoCC4 – Green
5	Common Gull		(1)		BoCC4 – Amber
5	Golden Plover		(12)		BoCC4 – Green
5	Goldfinch			(4)	BoCC4 – Green
5	Great Tit	1			BoCC4 – Green
5	Herring Gull	(2)			S.41, BoCC4 - Red
5	Jackdaw			(2)	BoCC4 – Green
5	Magpie			(1)	BoCC4 – Green
5	Robin	1			BoCC4 – Green
6	Blue Tit	2			BoCC4 – Green
6	Buzzard		(2)	(1)	BoCC4 – Green
6	Carrion Crow	2			BoCC4 – Green
6	Common Gull	1		1 (1)	BoCC4 – Amber
6	Goldfinch	8	(2)	(1)	BoCC4 – Green
6	Great Tit	1		1	BoCC4 – Green
6	Great Spotted Woodpecker			1	BoCC4 – Green
6	Grey Heron		1		BoCC4 – Green
6	Feral Pigeon	1			BoCC4 – Green

Land at Draycott, Cam: Ecological Survey Report

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
6	Jackdaw	41	25		BoCC4 – Green
6	Magpie		4		BoCC4 – Green
6	Mallard			1	BoCC4 - Amber
6	Redwing		(11)	(3)	Sch.1, BoCC4 - Red
7	Magpie			1	BoCC4 – Green
7	Redwing			(8)	Sch.1, BoCC4 - Red
8	Blackbird		1	1	BoCC4 – Green
8	Blue Tit		1		BoCC4 – Green
8	Buzzard			2	BoCC4 – Green
8	Carrion Crow	1			BoCC4 – Green
8	Common Gull		(1)	1	BoCC4 – Amber
8	Dunnock		1		S.41, BoCC4 – Amber
8	Goldfinch		1	8	BoCC4 – Green
8	Great Tit		1		BoCC4 – Green
8	Jackdaw		(2)	4	BoCC4 – Amber
8	Lesser Black-backed Gull	1			BoCC4 – Amber
8	Magpie	1	1		BoCC4 – Green
8	Redwing		(1)	(3)	Sch.1, BoCC4 - Red
8	Wren		1		BoCC4 – Green
8	Wood Pigeon	(18)			BoCC4 – Green
9	Black-headed Gull	9	14		BoCC4 – Amber
9	Carrion Crow		1	2	BoCC4 – Green
9	Common Gull	6	6	7	BoCC4 – Amber
9	Herring Gull	2	1	1	S.41, BoCC4 – Red
9	Lesser Black-backed Gull	1	1		BoCC4 – Amber



**Land at Draycott, Cam:
Ecological Survey Report**

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
9	Magpie			2	BoCC4 – Green
9	Mallard			2	BoCC4 – Amber
9	Pied Wagtail		1		BoCC4 – Green

**Land at Draycott, Cam:
Ecological Survey Report**

Table 4-6 Birds recorded from the buffer zone during winter

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
10	Blackbird		1		BoCC4 – Green
10	Blue Tit				BoCC4 – Green
10	Buzzard		(1)		BoCC4 – Green
10	Grey Heron		(1)		BoCC4 – Green
10	Herring Gull			2	S.41, BoCC4 – Red
10	Jackdaw		9		BoCC4 – Green
10	Magpie		1		BoCC4 – Green
10	Redwing			39	Sch.1, BoCC4 - Red
10A	Buzzard	(1)			BoCC4 – Green
10A	Redwing	6	2		Sch.1, BoCC4 - Red
11/Access Track (AT)	Blackbird	7	8	3	BoCC4 – Green
11/AT	Black-headed Gull			1	BoCC4 – Amber
11/AT	Blue Tit	3	1	4	BoCC4 – Green
11/AT	Carrion Crow			2	BoCC4 – Green
11/AT	Chaffinch			1	BoCC4 – Green
11/AT	Dunnock			1	S.41, BoCC4 – Amber
11/AT	Fieldfare			4	Sch.1, BoCC4 - Red
11/AT	Goldfinch	4, (1)	1, (4)		BoCC4 – Green
11/AT	Greenfinch	1		2	BoCC4 – Green
11/AT	House Sparrow	13	1, (2)		S.41, BoCC4 - Red
11/AT	Magpie	1			BoCC4 – Green
11/AT	Redwing	16	3, (8)	12, (7)	Sch.1, BoCC4 - Red
11/AT	Robin	3	1	5	BoCC4 - Green
11/AT	Starling	9			S.41, BoCC4 - Red

**Land at Draycott, Cam:
Ecological Survey Report**

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
11/AT	Wood Pigeon		1		BoCC4 – Green
11/AT	Wren	1		1	BoCC4 – Green
12	Blackbird		3		BoCC4 – Green
12	Carrion Crow			2	BoCC4 – Green
12	Herring Gull			(1)	S.41, BoCC4 – Red
12	Redwing	1	(1)		Sch.1, BoCC4 - Red
12	Robin			1	BoCC4 – Green
12	Fieldfare	1			Sch.1, BoCC4 - Red
12	Great Tit	8			BoCC4 – Green
13	Blackbird		2	1	BoCC4 – Green
13	Redwing	(10)			Sch.1, BoCC4 – Red
14	Blackbird		1		BoCC4 – Green
14	Fieldfare		1		Sch.1, BoCC4 - Red
14	Goldfinch	(4)			BoCC4 – Green
14	Magpie	2			BoCC4 – Green
14	Pied Wagtail			(1)	BoCC4 – Green
14	Redwing			8	Sch.1, BoCC4 – Red
14	Wood Pigeon	(4)			BoCC4 – Green
15	Greenfinch			1	BoCC4 – Green
15	Redwing			8	Sch.1, BoCC4 – Red
16	Blackbird			1	BoCC4 – Green
16	Goldfinch		1		BoCC4 – Green
16	Magpie		2		BoCC4 – Green
16	Redwing		21	10	Sch.1, BoCC4 – Red
16	Starling			1	S.41, BoCC4 - Red

**Land at Draycott, Cam:
Ecological Survey Report**

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
16	Wood Pigeon		6		BoCC4 – Green
17	Goldfinch	1			BoCC4 – Green
17	House Sparrow	1			S.41, BoCC4 - Red
17	Magpie		1		BoCC4 – Green
17	Robin	1			BoCC4 – Green
Motorway Embankment South (MES)	Blackbird			1	BoCC4 – Green
MES	Blue Tit	1		3	BoCC4 – Green
MES	Goldfinch	1	1		BoCC4 – Green
MES	Great Tit	2			BoCC4 – Green
MES	Robin			3	BoCC4 – Green
MES	Wren	1			BoCC4 – Green
18	Buzzard		1		BoCC4 – Green
18	Fieldfare		18, (1)		Sch.1, BoCC4 - Red
18	Golden Plover	71	26		BoCC4 – Green
18	Herring Gull	(20)			S.41, BoCC4 - Red
18	Jackdaw	6			BoCC4 – Green
18	Redwing		27	(3)	Sch.1, BoCC4 - Red
18	Robin	1			BoCC4 – Green
18	Starling		22		S.41, BoCC4 - Red
18	Wood Pigeon	1			BoCC4 – Green
19	Blackbird	1			BoCC4 – Green
19	Carrion Crow		2		BoCC4 – Green
19	Dunnock	1			S.41, BoCC4 – Amber
19	Goldfinch	(2)			BoCC4 – Green

**Land at Draycott, Cam:
Ecological Survey Report**

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
20	Magpie	1			BoCC4 – Green
20	Blackbird	1			BoCC4 – Green
21	Carrion Crow			1	BoCC4 – Green
22	Blackbird			2, (1)	BoCC4 – Green
22	Carrion Crow		3		BoCC4 – Green
22	Fieldfare	28	9	6	Sch.1, BoCC4 – Red
22	Herring Gull			(1)	S.41, BoCC4 – Red
22	Lapwing			20	S.41, BoCC4 – Red
22	Pied Wagtail			1	BoCC4 – Green
22	Redwing	16	7	107	Sch.1, BoCC4 – Red
22	Wood Pigeon		18		BoCC4 – Green
23	Blue Tit		1		BoCC4 – Green
23	Carrion Crow	1			BoCC4 – Green
23	Robin			1	BoCC4 – Green
24	Carrion Crow			1	BoCC4 – Green
24	Jackdaw		2	8	BoCC4 – Green
24	Magpie		1	2	BoCC4 – Green
24	Wood Pigeon			9	BoCC4 – Green
25/AT	Blackbird			1	BoCC4 – Green
25/AT	House Sparrow	6	8		S.41, BoCC4 - Red
26	Redwing			1	Sch.1, BoCC4 – Red
27	Great Tit			1	BoCC4 – Green
27	Goldfinch			1	BoCC4 – Green
27	Wood Pigeon			2	BoCC4 – Green
29	Dunnock	1	1	1	S.41, BoCC4 – Amber



**Land at Draycott, Cam:
Ecological Survey Report**

Field Number	Species	Visit 1	Visit 2	Visit 3	Conservation Status
29	Goldfinch	3			BoCC4 – Green
29	Great Tit		1	1	BoCC4 – Green
29	House Sparrow			1	BoCC4 – Green
29	Jackdaw			(3)	BoCC4 – Green
29	Robin	1		1	BoCC4 – Green
29	Magpie	1			BoCC4 – Green

Land at Draycott, Cam: Ecological Survey Report

Dormice

- 4.27 There are no desktop records of dormice within the desk study search area. No dormice were recorded during the surveys between May and October. It is therefore concluded that dormice do not use the site.

Reptiles

- 4.28 Slow-worms (*Anguis fragilis*) and grass snakes (*Natrix helvetica*) have both been recorded from nearby gardens and open areas, but there are no desktop records of adders (*Vipera berus*) or common lizards (*Zootoca vivipara*).
- 4.29 The hedges and field margins are suitable foraging and sheltering habitat for slow-worms and grass snakes, but the open fields are of negligible value for these species.
- 4.30 No reptiles of any kind were found during the surveys of the site.
- 4.31 Given the presence of slow-worms and grass snakes close to the site and their absence from the on-site survey results, it is concluded that they are unlikely to use the site except occasionally in very small numbers.

**Land at Draycott, Cam:
Ecological Survey Report**

Table 4-5 Summary of Baseline Conditions

Feature	Extent within / proximity or links to the Site
Severn Estuary SAC and SPA & Ramsar and Upper Severn Estuary SSSI	<p>There is no direct ecological link between the site and the estuary as it is around 4km from the estuary and it is not used by any of the Qualifying Features. There is a potential functional link via the River Cam, which is 60m from the site at its closest point. It is then approximately 7km before the Cam connects into the Severn, via the Gloucester and Sharpness Canal and eventually into the estuary via Frampton Pill, or 14km where it flows into the estuary at Sharpness Point.</p> <p>There is also potential for new residential development to have an adverse effect on the estuary as a result of additional recreational pressure.</p>
Rodborough Common SAC	At nearly 10km from the site, this site is not functionally linked to the SAC and its Qualifying Features are not likely to be affected by the proposed development
Stinchcombe Hill SSSI	There is no ecological link between the site and this SSSI, and there would be no potential effects of the proposed development upon the features for which it is designated
Frampton Pools SSSI	There is no ecological link between the site and this SSSI, and there would be no potential effects of the proposed development upon the features for which it is designated
Coaley Wood Quarries SSSI	This geological SSSI is not vulnerable to any adverse effects of the proposed development.
Woodchester Park SSSI	The results of the habitat and bat surveys indicate that the Site is not regularly used by the nationally important breeding colony of greater horseshoe bats that are present at this SSSI. There is therefore no functional link and the integrity of the SSSI would not be adversely affected by the proposed development.

**Land at Draycott, Cam:
Ecological Survey Report**

Feature	Extent within / proximity or links to the Site
Habitats	<p>The site contains around 4.7km of hedgerow, all of which are Priority Habitat and most of which are 'important under the meaning of <i>The Hedgerow Regulations 1997</i></p> <p>There are also six veteran trees and one ancient tree within the site boundary</p> <p>The remainder of the habitats are of low ecological value</p>
Amphibians	<p>The ponds within the site support great crested newts, and they are also found in some of the ponds within 500m of the site. The hedgerows and scrub within the site boundary are suitable habitat, and the remainder of the site is unlikely to be regularly used habitat.</p>
Badgers	<p>There are no badger setts within or adjacent to the site</p>
Bats	<p>The site's hedgerows are of up to regional importance for foraging and commuting bats, but the site is not of importance for greater horseshoe bats associated with Woodchester Mansion</p>
Birds	<p>The site is used by common farmland birds for breeding and in winter, but it is not regularly used by flocks of wildfowl or water birds associated with the Severn Estuary or the other wetland sites in the surrounding landscape</p>
Dormice	<p>The site is not used by dormice</p>
Reptiles	<p>The site is not regularly used by large numbers of reptiles, although it may occasionally be used by small numbers of the commoner species where it adjoins nearby residential areas</p>

5 REFERENCES

Amphibian and Reptile Groups of the United Kingdom (2010) *Advice Note 5: Great crested newt Habitat Suitability Index*. ARG UK.

Bright, P. W., Morris, P. A. & Mitchell-Jones, A (2006) *Dormouse Conservation Handbook (2nd Edition)*. English Nature, Peterborough.

British Trust for Ornithology (2007) *Breeding Codes*. Bird Atlas 2007, Simple Methods. BTO.

British Trust for Ornithology. *Species Codes* [online] URL:
www.bto.org/sites/default/files/u16/downloads/forms_instructions/bto_bird_species_codes.pdf

Collins, J. (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition)*. The Bat Conservation Trust, London.

English Nature (2001) *Great crested newt mitigation guidelines*. English Nature. Peterborough.

English Nature (2002) *Badgers and development*. English Nature. Peterborough.

Froglife (1999). *Froglife Advice Sheet 10: reptile survey*. Froglife, London.

Gent, T. & Gibson, S. (2003) *The Herpetofauna Workers' Manual*. JNCC, Peterborough.

Gregory R, D., Gibbons, D. W. & Donald, P. F (2004) *Bird census and survey techniques*. In: Sutherland, W. J, Newton, I & Green R, E (Eds) *Bird Ecology and Conservation: A Handbook of Techniques*. Oxford University Press, Oxford. 17-56.

Harris, S., Cresswell, P. & Jefferies, D (1989) *Surveying Badgers*. The Mammal Society.

Land at Draycott, Cam: Ecological Survey Report

JNCC (2004) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit.*

Langton, T., Beckett, C. & Foster, J (2001) *Great crested newt conservation handbook.* Froglife, Suffolk.

Mitchell-Jones, A. J. (2004) *Bat Mitigation Guidelines,* English Nature.

Mitchell-Jones, A. J. & McLeish, A. P. (2004) *3rd Edition Bat Worker's Manual,* JNCC.

National Rivers Authority (1993) *Otters and River Habitat Management. Conservation Technical Handbook Number 3.*

Natural England (2013) *Magic* [online] URL:
www.magic.defra.gov.uk/home.htm

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote, M. (2000) *Evaluating the suitability of habitat for the great crested newt (Triturus cristatus).* Herpetological Journal. 10: 143-155.

Wray, S., Wells, D., Long, E., Mitchell-Jones, T. (2010) Valuing Bats in Ecological Impact Assessment. Published in *In Practice*, Number 70, December 2010, Pages 23-25