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Ecological Assessment: Land adjoining Crawforton, Shrewsbury Road, Hadnall, Shropshire, SY4 4AN.

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1. SUMMARY

On 26th November 2014 an Ecological Assessment was carried out of a proposed development site known as 'Land adjoining Crawforton', Shrewsbury Road, Hadnall, Shropshire, SY4 4AN.

The Ecological Assessment comprised a Desk Study, an Extended Phase One Habitat Survey, an Initial Bat Survey and a Great Crested Newt Assessment.
Historical biodiversity records were purchased from the Shropshire Ecological Record Centre.

Dr. R. M. Jones, experienced field biologist, surveyor, Natural England licensed bat worker (Licence numbers 2014-4971-SCI-SCI and CLS01310) and Natural England licensed newt worker (Licence number CLS001310) carried out the assessment/survey.

The Ecological Assessment was requested by Les Stephan Planning Limited, on behalf of Mr. & Mrs. M. Davies, to inform a proposal to construct residential dwellings on Land adjoining Crawforton.

1.1 Desk Study

There are no County Wildlife Sites or other wildlife designated sites within 1km of the proposed development site.
There are records of Badger, Bat, Bird, Great crested newt, Hedgehog, Otter, Water vole and Vascular plant within 1km of Land adjoining Crawforton.

It is not considered that there are records of protected flora or fauna directly on the proposed development site.

With the exception of Great crested newt; it is not considered that development of The Site will adversely affect the conservation status of protected species recorded within the locality.

1.2 Habitat

Briefly, the proposed development site is part a small field/paddock of amenity grassland.
The habitat of the proposed development site is of low ecological value.

1.3 Initial Bat Survey

Trees on and within the immediate vicinity of the proposed development site were assessed for their potential to be used by bats for roosting purposes.
No potential bat roosting habitat was identified.

No further bat survey work is recommended to inform the proposed development.
Mitigation (external lighting) for bats is recommended.

1.4 Great crested newt

There is a record of Great crested newt within 1km of Land adjoining Crawforton.

There is one unmapped garden pond within 50m of Land adjoining Crawforton and six mapped ponds within 250m of the proposed development site.

Further assessment/survey work for Great crested newts is recommended to inform the proposed development.

1.5 Mitigation

Mitigation is recommended for:
- Badger
- Bat (external lighting)
- Small Breeding Bird
- Hedgehog

1.6 Biodiversity Compensation / Enhancement

Compensation and Enhancement measures for wildlife are recommended.

2. INTRODUCTION

Star Ecology was commissioned by Les Stephan Planning Limited, on behalf of Mr. & Mrs. M. Davies, to conduct an Ecological Assessment of a proposed development site known as 'Land adjoining Crawforton', Shrewsbury Road, Hadnall, Shropshire, SY4 4AN.

From this point forward the proposed development site 'Land adjoining Crawforton' is referred to as 'The Site'.

Dr. R. M. Jones, experienced field biologist, surveyor, Natural England licensed bat worker (Licence numbers 2014-4971-SCI-SCI and CLS01310) and Natural England licensed newt worker (Licence number CLS001310) carried out the assessment/survey.

The Ecological Assessment was requested by Les Stephan Planning Limited, on behalf of Mr. & Mrs. M. Davies, to inform a proposal to construct residential dwellings on The Site.

The Ecological Assessment comprised a Desk Study, an Extended Phase One Habitat Survey, an Initial Bat Survey and a Great Crested Newt Assessment.

2.1 Site Description

Briefly, The Site is a square shaped grassland field/paddock, approximately 0.39 hectares in size, at the northern-end of the village of Hadnall.

The Site is immediately neighboured by:
- the Crawforton domestic property at the north;
- a large arable field (with field margin) at the east and south; and,
- the A49 highway at the west.

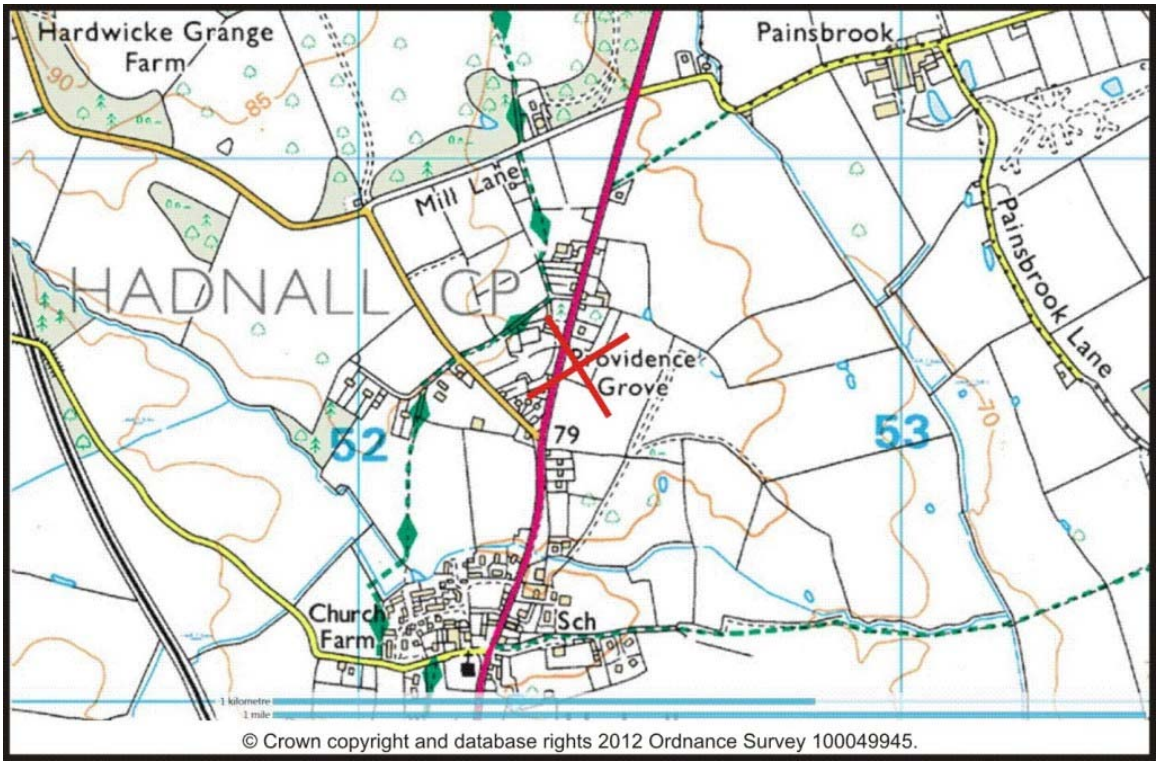
The landscape surrounding The Site consists of agricultural properties, residential properties and (intensively managed) agricultural fields.

The surrounding landscape is connected by highways and (managed) agricultural hedgerows – some of which contain mature trees.

Map 1. Location of The Site.

Map 2. Location of The Site and surrounding habitat types.
Please note: the aerial photograph of habitat types is a 'screenshot' from Google Maps.

Map 1. Location of The Site (indicated by a red cross).



Map 2. Location of The Site (indicated by a red cross) and surrounding habitat types.

2.2 Proposed Development

It is understood from Les Stephan Planning Limited that there is a proposal to construct (less than ten) residential dwellings The Site.

3. DESK STUDY

3.1 Method

A data search was commissioned from Shropshire Ecological Data Network (SEDN) for records of priority/protected species and wildlife sites within a 1km radius of The Site.

3.2 Results

SEDN provided records to Star Ecology on 21st November 2014.

A graphical representation of biodiversity records obtained from the Shropshire Ecological Data Network is contained in Appendix 1.

Please note the following caveat produced by Shropshire Wildlife Trust (SWT) who administers the Shropshire Ecological Data Network. This caveat should be considered when interpreting records:

"Readers of this report should be aware that SWT is providing records on behalf of the Shropshire Ecological Data Network. Although this is the most complete set of species data available the absence of records for much of the area studied should not be taken as an indication of absence of species."

Those SEDN records which are for fauna or flora which may be determined to be potentially negatively affected by development on The Site are considered below.

3.2.1 County Wildlife Sites and/or Designated Sites

There are no wildlife sites or ecologically designated sites within 1km of The Site.

3.2.2 Badger

Legislation
Badgers (*Meles meles*) and their setts are protected by The Protection of Badgers Act 1992.

Under this legislation it is illegal to:

- wilfully kill, injure or take, or attempt to kill, injure or take, a Badger;
- cruelly ill-treating a Badger, digging for Badgers, using Badger tongs, using a firearm other than the type specified under the exceptions within the Act;
- interfere with a Badger sett by damaging, destroying, obstructing, causing a dog to enter a sett, disturbing an occupied sett - either by intent or by negligence;
- sell or offer for sale a live Badger, having possession or control of a live Badger;
- mark, attach a ring, tag, or other marking device to a Badger.

A Natural England Badger Disturbance Licence may be required for development works affecting Badgers.

Records
The SEDN has two records of Badger within 1km of The Site; both for road-side corpses.

The earliest record was collected in year 2012, the most recent in year 2014.
The closest record of Badger to The Site is approximately 700m south.

3.2.3 Bat

Legislation
All bat species (*Rhinolophidae* and *Vespertilionidae*) are protected under the Wildlife and Countryside Act 1981, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010.

Under this legislation it is illegal to:

- deliberately capture or kill a bat;
- deliberately disturb any such animal;
- damage or destroy a breeding site or resting place of a bat;
- keep, transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from such a wild animal.
- intentionally or recklessly obstruct access to a bat roost.
- deliberately disturb any bat, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.

A bat roost may be any structure a bat uses for breeding, resting, shelter or protection. Roost sites are protected whether or not bats are in occupation, as they may be re-used by bats.
All species of bat are priority species in the UK Biodiversity Action Plan (HM Government 1994 et seq.) and are Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A European Protected Species (EPS) Development Licence from Natural England may be required for development works affecting bats.

Record
The SEDN has one record of Bat within 1km of The Site.
The record is for Brown Long-eared (*Plecotus auritus*) bat recorded in year 2008 approximately 875m south of The Site. The record has a precision of 100m.

3.2.4 Bird

There are 195 records of Bird for 45 species within 1km of The Site.

Of the records of Bird within 1km of The Site:
- the earliest record was collected in year 2008
- the most recent record was collected in year 2013
- there are 23 records with a precision of 100m
- there are 154 records with a precision of 2000m
- there are 18 records with a precision of 10km

Five species of Bird recorded within 1km of The Site – namely Barn Owl (*Tyto alba*), Common Crossbill (*Loxia curvirostra*), Little Ringed Plover (*Charadrius dubius*), Merlin (*Falco columbarius*) and Peregrine Falcon (*Falco peregrinus*) – are fully protected under the Wildlife and Countryside Act 1981 (as amended).

It is not considered that there are records of Bird collected directly on The Site.

3.2.5 Great Crested Newt

Legislation
The Great crested newt (*Triturus cristatus*) is protected under the Wildlife & Countryside Act 1981(as amended) and the Conservation of Habitats and Species Regulations 2010.

The Conservation of Habitats and Species Regulations 2010 (the "Habitats Regulations") consolidate and update the Conservation (Natural Habitats, &c.) Regulations 1994.

Under this legislation, it is illegal to:

- intentionally kill, injure, or capture Great crested newts or their young; (this includes the eggs of Great crested newts);
- intentionally or recklessly damage, destroy or obstruct access to areas used by Great crested newts for shelter or protection (which is taken to include water-bodies used by the newts);
- intentionally or recklessly disturb Great crested newts while they are occupying a structure or place which is used by them for shelter or protection.

A European Protected Species (EPS) development Licence from Natural England may be required for development works affecting Great crested newts.

Record
The SEDN has one record of Great crested newt within 1km of The Site.
In year 2013 Great crested newt was recorded approximately 670m south of The Site. The record has a precision of 100m.

3.2.6 Hedgehog

Legislation and policy
(European) Hedgehog (*Erinaceus europaeus*) are:
- listed on Appendix III of the Bern Convention;
- protected from harm under Schedule 6 of the Wildlife and Countryside Act 1981;
- Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- listed as a Priority Species for conservation action under the United Kingdom Biodiversity Action Plan.

Record
The SEDN has one record of Hedgehog within 1km of The Site.
In year 2013 a dead Hedgehog was recorded approximately 990m south of The Site. The record has a precision of 100m.

3.2.7 Otter

Legalisation
Otter (*Lutra lutra*) are protected under Schedule 5 (Section 9) of the Wildlife and Countryside Act 1981 (as amended) and under The Conservation of Habitats and Species Regulations 2010.

Otters and their resting places are fully protected.

It is an offence to:

- deliberately kill, injure or take Otter;
- damage, destroy or obstruct Otter breeding or resting places;
- disturb Otter in their breeding or resting places.

A Natural England Licence may be required for development works affecting Otter.

Records
The SEDN has four records of Otter within 1km of The Site.
The earliest record was collected in year 1996, the most recent in year 2010.
The closest record of Badger to The Site is approximately 720m southwest.

3.2.8 Water vole

Legislation
Water vole (*Arvicola amphibius*) are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

Under this legislation, it is illegal to:

- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
- intentionally or recklessly disturb Water voles whilst occupying a structure or place used for that purpose;
- intentionally kill, injure or take Water voles;
- possess or control live or dead Water voles or derivatives;
- sell water voles or offer or expose for sale or transport for sale;
- publish or cause to be published any advertisement which conveys the buying or selling of Water voles.

Record
The SEDN has one record of Water vole within 1km of The Site.
In year 1999 a dead Water vole was recorded approximately 420m southwest of The Site. The record has a precision of 100m.

3.2.9 Vascular Plant

The SEDN has 13 records of Vascular plant within 1km of The Site.

Of the records of Vascular plant within 1km of The Site:
- the earliest record was collected in year 1950
- the most recent record was collected in year 2008
- one record has a precision of 100m

- there are four records with a precision of 1000m
- there are seven records with a precision of 2000m
- there is one record with a precision of 10km

3.3 Conclusion

There are no wildlife sites or ecologically designated sites within 1km of The Site

It appears that the SEDN does not hold records for wildlife directly on The Site.

Records indicate that there may be protected species, particularly Badger, Bats and Birds, on and/or within the vicinity of The Site.

Development of The Site will need to be carried out in a manner that will not negatively impact the status of protected fauna and flora within the vicinity of The Site.

4. EXTENDED PHASE ONE HABITAT SURVEY

An Extended Phase One Habitat Survey (JNCC, 1993) of The Site was carried out on 26th November 2014.

The Extended Phase One Habitat Survey was carried out by Dr. R. M. Jones, experienced field biologist and surveyor.

4.1 Survey Objectives

a) To determine if The Site contains flora of significant ecological value.
b) To determine if The Site contains fauna of significant value and/or Protected Species.

4.2 Method

To fulfil the brief of undertaking an ecological assessment of The Site an Extended Phase One Habitat Survey was conducted (JNCC, 1993).
This is a standard technique for classifying and mapping British habitats.
The aim is to provide a record of habitats that are likely to be ecologically important.

Where appropriate, the extent of each habitat type was mapped, and details of relative plant species abundance within homogenous areas were recorded.
If appropriate, species abundance was measured on the DAFOR scale (Dominant, Abundant, Frequent, Occasional and Rare).

In order to allow efficient reporting of the boundaries on or immediately adjacent to The Site; where appropriate boundaries (such as hedges, fences and walls) were recorded and described individually.

In order to allow efficient reporting of trees on or immediately adjacent to The Site; where appropriate individual trees were recorded and described individually.

Please note:
A separate and thorough Tree Survey and/or Arboricultural Assessment (such as a tree survey to BS5837:2012 “Trees in relation to design, demolition and construction. Recommendations”) or similar was not carried out by Star Ecology.

During the Extended Phase One Habitat Survey the presence, or potential presence, of protected species, such as Badger and reptiles, was recorded on The Site.
Surveyor accessible land within approximately 100m of The Site was also surveyed.
Incidental records of birds present on The Site were made throughout the survey.

Where appropriate, Target Note descriptions were recorded for features of nature conservation importance and/or extra-ordinary features of The Site. These include areas of valued vegetation and places that might support notable animal species.

4.3 Limitations

It is not considered that there are any significant limitations to the survey.

4.4 Results

4.4.1 Climate Conditions

During the survey weather conditions were constant, damp and misty. However, there was good visibility throughout the survey.
There was no breeze.

4.4.2 Habitat types

Appendix 2 contains an Extended Phase One Habitat Map.
Appendix 3 contains a photographic record of the survey.

The following habitat types and their respective hierarchical alphanumeric codes were recorded at The Site:

<u>Dense/continuous scrub (A2.1)</u>
There is a narrow (approximately 1m wide) area of Bramble (*Rubus fruticosus* agg.) scrub within the northwest corner of The Site, at the immediate south of the north boundary.

An area of (mature) Blackthorn (*Prunus spinosa*) scrub grows along the west section of the south boundary.

<u>Broadleaved parkland/scattered trees (A3.1)</u>
Common Ash, Hawthorn (*Crataegus monogyna*) and Holly (*Ilex aquifolium*) trees/bushes grow at the immediate north of the west section of the north boundary.

One immature Common Ash (*Fraxinus excelsior*) tree, two immature English Oak (*Quercus robur*) trees and Cherry Plum (*Prunus cerasifera*) grow along the east boundary.

One mature multi-stemmed Common Ash tree grows at the southeast corner.

Two mature Common Beech (*Fagus sylvatica*) trees, five mature Small-leaved Lime (*Tilia cordata*) trees and five multi-stemmed Sycamore (*Acer pseudoplatanus*) trees grow at the immediate west of the west boundary. A clump of Holly trees/bushes grow at the immediate west of the south-end of the west boundary.

<u>Coniferous parkland/scattered trees (A3.2)</u>
Two Lawson Cypress (*Chamaecyparis lawsoniana*) trees grow at the immediate north of the north boundary.

<u>Amenity grassland (J1.2)</u>
The Site consists of a field/paddock of amenity grassland. The grassland appears to be regularly mown though at the time of survey the average sward height was approximately 100mm. Common grasses (such as Annual Meadow-grass (*Poa annua*), Cock's-foot (*Dactylis glomerata*), False-Oat grass (*Arrhenatherum elatius*), Perennial Rye-grass (*Lolium perenne*), Timothy (*Phleum pratense*) and Yorkshire Fog (*Holcus lanatus*) grow throughout. Ribwort Plantain (*Plantago lanceolata*) is locally abundant.

Intact species poor hedge (J2.1.2)
A planted cypress (*Cupressus* sp(p).) forms the middle and east sections of the north boundary. The hedge is within a neighbouring domestic property and appears to be regularly maintained at an approximate height of 2m.
The west section of the north boundary is formed by trees (see above), Hawthorn and Holly trees/bushes.

Fence (J2.4)
Timber-post and three-strand barbed-wire fencing forms the east and south boundaries. The south boundary fence is in a dilapidated condition.
A timber-post and pig-netting wire fence forms the west boundary.

4.4.3 Fauna

4.4.3.1 Badger

Legislation
Badgers (*Meles meles*) and their setts are protected by The Protection of Badgers Act 1992.

Under this legislation it is illegal to:

- wilfully kill, injure or take, or attempt to kill, injure or take, a Badger;
- cruelly ill-treating a Badger, digging for Badgers, using Badger tongs, using a firearm other than the type specified under the exceptions within the Act;
- interfere with a Badger sett by damaging, destroying, obstructing, causing a dog to enter a sett, disturbing an occupied sett - either by intent or by negligence;
- sell or offer for sale a live badger, having possession or control of a live Badger;
- mark, attach a ring, tag, or other marking device to a Badger.

A Natural England Badger Disturbance Licence may be required for development works affecting Badgers.

Relevant factors
There are records of Badger within 1km of The Site (Desk Study – Section 3).

A multiple-hole (approximately 12 holes) active Badger sett was found at approximate National Grid Reference (NGR) 352550, 320695; approximately 110m northeast of The Site.

No evidence of Badger was found on The Site.

4.4.3.2 Hedgehog

Legislation and protection
(European) Hedgehog (*Erinaceus europaeus*) are:
- listed on Appendix III of the Bern Convention;
- protected from harm under Schedule 6 of the Wildlife and Countryside Act 1981;
- are Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- listed as a Priority Species for conservation action under the United Kingdom Biodiversity Action Plan.

Consideration
There is a record of Hedgehog within 1km of The Site (Desk Study – Section 3). Hedgehog may use the area of Blackthorn scrub for breeding/nesting purposes. Hedgehog may traverse The Site and/or use if for foraging purposes.

4.4.3.3 Otter

Legislation
Otter (*Lutra lutra*) are protected under Schedule 5 (Section 9) of the Wildlife and Countryside Act 1981 (as amended) and under The Conservation of Habitats and Species Regulations 2010.

Otters and their resting places are fully protected.

It is an offence to:

- deliberately kill, injure or take Otter;
- damage, destroy or obstruct Otter breeding or resting places;
- disturb Otter in their breeding or resting places.

A Natural England Licence may be required for development works affecting Otter.

Consideration
There are records of Otter within 1km of The Site (Desk Study – Section 3). Considering the habitats on and surrounding The Site, it is not thought likely that Otter would reside on The Site or within its immediate environs.

4.4.3.4 Reptile

Legislation
Four reptile species, Adder (*Vipera berus*), Grass snake (*Natrix natrix*), Slow-worm (*Anguis fragilis*) and Viviparous (or Common) Lizard (*Lacerta vivipara*), have protection under the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000.
Their inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) gives 'partial protection' (i.e. only parts of section 9 apply). In addition to restrictions with respect to trade (prohibition of sale and advertising for sale, etc.) they are also protected from intentional killing or injury.
Natural Environment and Rural Communities Act 2006 lists all reptile species as a species of principle importance.
Reptiles are listed as priority species under the UK Biodiversity Action Plan.

Relevant factors
There are no records of reptiles within 1km of The Site (Desk Study – Section 3). Considering the location and habitat of The Site and the surrounding habitat; it is not considered likely that reptiles would reside on The Site.

4.4.3.5 Small Breeding Birds

Legislation
Nesting birds are protected by the Wildlife and Countryside Act 1981.
Under the Wildlife and Countryside Act 1981, all birds are protected while breeding. It is an offence, with certain exceptions to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- intentionally take or destroy the egg of any wild bird.

Consideration
Vegetation on and bounding The Site provides potential Small Breeding Bird nesting habitat.

4.4.3.6 Water vole

Legislation
Water vole (*Arvicola amphibius*) are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).

Under this legislation, it is illegal to:

- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection;
- intentionally or recklessly disturb Water voles whilst occupying a structure or place used for that purpose;
- intentionally kill, injure or take Water voles;
- possess or control live or dead Water voles or derivatives;
- sell water voles or offer or expose for sale or transport for sale;
- publish or cause to be published any advertisement which conveys the buying or selling of Water voles.

Consideration
There are records of Water vole within 1km of The Site (Desk Study – Section 3). Considering the habitats on and surrounding The Site, it is not thought likely that Water vole would reside on The Site or within its immediate environs.

4.4.3.7 Other fauna

Evidence of Mole (*Talpa europaea*) and Rabbit (*Oryctolagus cuniculus*) was noted within The Site.

4.5 Conclusion

The flora of The Site has a low ecological value.

However:
- The Site and its boundaries may be used by bats for foraging purposes.
- Badger may occasionally traverse and/or forage on The Site.
- The Site may be used by Hedgehog for breeding/nesting purposes
- The Site may be traversed by Hedgehog and/or used by Hedgehog for foraging purposes
- vegetation on and bounding The Site may be used by Small Breeding Birds for nesting purposes.

Trees on The Site and trees bounding The Site have been subject to an Initial Bat Survey (Section 5).

5. INITIAL BAT SURVEY

5.1 Introduction

On 26th November 2014 an Initial Bat Survey was carried out on the trees on (and bounding) The Site.

Dr. R. M. Jones, experienced field biologist, surveyor and Natural England licensed bat worker (Licence numbers 2014-4971-SCI-SCI and CLS01310) carried out the Initial Bat Survey.

There is a record of Brown Long-eared bat within the vicinity of The Site (Desk Study – Section 3).

5.2 Legislation

All bat species (*Rhinolophidae* and *Vespertilionidae*) are protected under the Wildlife and Countryside Act 1981, the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010.

Under this legislation it is illegal to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats;
- damage or destroy bat roosts or resting places of bats;
- keep, transport, sell or exchange, or offer for sale or exchange, any live or dead bat, or any part of, or anything derived from such a wild animal.
- intentionally or recklessly obstruct access to a bat roost.
- deliberately disturb any bat, in particular any disturbance which is likely to (i) impair their ability to survive, breed, reproduce or to rear or nurture their young; or in the case of hibernating or migratory species, to hibernate or migrate; or (ii) to affect significantly the local distribution or abundance of the species to which they belong.

A bat roost may be any structure a bat uses for breeding, resting, shelter or protection. Roost sites are protected whether or not bats are in occupation, as they may be re-used by bats.
All species of bat are priority species in the UK Biodiversity Action Plan (HM Government 1994 et seq.) and are Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A European Protected Species (EPS) development Licence from Natural England may be required for development works affecting bats.

5.3 Survey objectives

a) To ascertain if trees on and/or bounding The Site contain features that may potentially be used by bats for roosting purposes.
b) If possible, to determine if bats are using (the) identified feature(s) for roosting.
c) Should potential roosting features be identified, if the trees/roosting feature(s) may be negatively affected by the proposed development - to recommend further bat survey work (e.g. Dusk Bat Emergence Surveys).

5.4 Method

Trees were surveyed for their potential to be used by bats for roosting purposes. Trees were surveyed from the ground by unaided human visual perception and, where required, the aid of close-focusing (Zeiss 10x42) binoculars and/or torches, including a Fenix RC40 3800 lumen torch.
Wherever possible; a search was made for physical evidence that may indicate the use of identified potential roosting features by bats.

5.4.1 Limitations of the Initial Bat Survey

Considering the trees surveyed; it is not considered that there are any significant constraints on the survey.
Adequate visibility of tree structures was obtained.

5.5 Results

Several trees, or their main stems, are covered with sparse immature Ivy (*Hedera helix*) growth. However, none of the trees on, bounding or immediately adjacent to The Site are considered to offer bat roosting opportunity.

5.6 Conclusion

In accordance with the Bat Conservation Trust's 'Bat Surveys – Good Practice Guidelines' (Hundt, 2012), trees on (and immediately adjacent to) The Site are Category 3 'trees with no potential to support bats'.

6. GREAT CRESTED NEWT ASSESSMENT

6.1 Introduction

On 26th November 2014 a Great crested newt assessment was carried out on ponds within the vicinity of The Site.

Dr. R. M. Jones, experienced field biologist, surveyor and Natural England licensed Great crested newt worker (Licence number CLS001310) carried out the Great Crested Newt Assessment.

There is an historical record of Great crested newt within 1km of The Site (Desk Study - Section 3).

There is one unmapped, domestic garden, pond within 50m of The Site and six mapped ponds within 250m of The Site.

The locations of ponds within 250m of The Site and their respective minimum distances from The Site are contained in Table 1.

Table 1. Ponds within 250m of The Site.

Pond number	National Grid Reference		Minimum distance (m) from The Site.
	Easting	Northing	
1	352440	320680	35
2	352310	320635	75
3	352535	320705	105
4	352330	320825	175
5	352585	320460	185
6	352560	320400	210
7	352390	320910	245

The locations of Ponds 1 – 7 are shown on Map 3.

Map 3. Locations of ponds within 500m of The Site.

The blue circled 'P#' indicates the locations of Ponds 1 – 7.
The approximate outline of The Site is shown in red.

6.2 Legislation

The Great crested newt (*Triturus cristatus*) is protected under the Wildlife & Countryside Act 1981(as amended) and the Conservation of Habitats and Species Regulations 2010.

Under this legislation, it is illegal to:

- intentionally kill, injure, or capture Great crested newts or their young; (this includes the eggs of Great crested newts);
- intentionally or recklessly damage, destroy or obstruct access to areas used by Great crested newts for shelter or protection (which is taken to include water-bodies used by the newts);
- intentionally or recklessly disturb Great crested newts while they are occupying a structure or place which is used by them for shelter or protection.

A European Protected Species Licence from Natural England may be required for development works affecting Great crested newts.

6.3 Objectives

a) If necessary, to assess the suitability of Ponds 1 – 7 to support Great crested newts.
b) To assess the likelihood of Great crested newts – should they be present – being adversely affected by the proposed development.
c) To recommend further Great crested newt survey work as appropriate.

6.4 Method

6.4.1 Surveyed Ponds

Surveyor permission to view and/or survey Ponds 1 – 7 is the responsibility of Mr. & Mrs. M. Davies and Les Stephan Planning Limited.

On the date of survey surveyor permission was not available to Pond 2, Pond 4 or Pond 7. However, freely available aerial photographs indicate that Pond 4 and Pond 7 are no longer in existence.

6.4.2 Terrestrial Habitat Assessment

Terrestrial habitat on The Site - between The Site and Ponds 1 – 7 and within the immediate vicinity of Ponds 1 – 7 - was assessed for its suitability to be used by Great crested newts for foraging, rest and/or shelter.

The presence of habitat connectivity between The Site and Ponds 1 – 7 was recorded and assessed for its suitability to be used by Great crested newts for migration/dispersal purposes.

6.4.3 Assessment of Great Crested Newt Breeding Potential

If necessary, the likelihood of Great crested newts using Ponds 1 – 7 for breeding purposes was assessed using the Habitat Suitability Index (HSI).

The HSI for Great crested newts is a measure of habitat suitability, but is not a substitute for newt surveys.
In general, ponds with high HSI scores are more likely to support Great crested newts than those with low scores.

The National Amphibian and Reptile Recording Scheme HSI calculation method was used to calculate the HSI score for the pond.

6.4.4 Rapid Risk Assessment Tool

Assuming:
- that Great crested newts (continue to) use Ponds 1 – 7 for breeding purposes; and,
- the development of The Site was carried out in the absence of Great crested newt specific mitigation measures

if necessary, the Natural England ‘rapid risk assessment’ tool (contained in the Microsoft Excel document ‘wmla14-2_tcm6-4103.xls’) was used to qualify the likelihood of a criminal offence against Great crested newts being committed.

6.4.5 Limitations

It is acknowledged that the HSI scoring system cannot provide unequivocal evidence of Great crested newt absence.
However, given that Great crested newt have been historically recorded within 1km of The Site; the constraint of the above limitation is considered to be negligible.

6.5 Results

Appendix 4 contains a photographic record of Pond 1, Pond 3, Pond 5 and Pond 6.

6.5.1 Terrestrial Habitat of The Site

Briefly, The Site consists of an amenity grassland field/paddock.
See Section 4.4.2.

6.5.2 Pond 1

6.5.2.1 Terrestrial habitat between The Site and Pond 1

Pond 1 is an unmapped domestic garden pond within the Crawforton property and is immediately surrounded by amenity grassland, introduced shrub, areas of hardstanding and buildings.

The habitat between The Site and Pond 1 predominantly consists of regularly mown amenity grassland.

6.5.2.2 Habitat connectivity

There is no direct habitat link between Pond 1 and The Site; however, given the proximity of Pond 1 to The Site - should Great crested newts use Pond 1 for breeding purposes – they would be expected to be present on The Site and/or its boundaries.

6.5.2.3 Aquatic Habitat of Pond 1

It is understood from the owner of Crawforton that Pond 1 used to be stocked with fish. However, it is thought that the fish were caught/removed by (a) Heron(s) approximately four years before the date of survey.
Pond 1 has an approximate surface area of 25^2m.

6.5.2.4 Habitat Suitability Index

The HSI Score for Pond 1 was calculated as follows:

HSI variable	Comment	Score
SI1 - Location	-	1.00
SI2 - Pond area	Default value used for small pond	0.05
SI3 - Pond drying	Informed value: 'never dries'	0.90
SI4 - Water quality	'Good'	1.00
SI4 – Shade	-	1.00
SI6 – Fowl	'Absent'	1.00
SI7 – Fish	Informed value	0.67
SI8 – Nearby ponds	Ponds known/considered to exist	0.80
SI9 - Terrestrial habitat	'Moderate'	0.67
SI10 – Macrophytes	Assumed value during the months of spring	0.80
HSI		**0.65**

The HSI score of the Pond 1 is 0.65.
Pond 1 provides 'average' habitat for Great crested newts to use for breeding purposes.

6.5.2.5 Rapid Risk Assessment Tool

Assuming Pond 1 continues to be used by Great crested newts for breeding purposes:
The Natural England 'rapid risk assessment' tool shows the potential affect of developing the whole of The Site (i.e. 0.39 hectares) on Great crested newts is: 'Amber: Offence Likely'.
Notional offence probability score 0.5.

6.5.3 Pond 2

Surveyor access to Pond 2 was not provided.
It is not known if Pond 2 continues to exist or the (terrestrial) habitat surrounding the pond.
The A49 highway is situated between Pond 2 and The Site and it is possible that the highway may act as a physical barrier to Great crested newt dispersal/movement.

6.5.3.1 Rapid Risk Assessment Tool

Assuming Pond 2 is used by Great crested newts for breeding purposes:
The Natural England 'rapid risk assessment' tool shows the potential affect of developing the whole of The Site (i.e. 0.39 hectares) on Great crested newts is: 'Amber: Offence likely'.
Notional offence probability score 0.5.

6.5.4 Pond 3

At the time of survey:
- Pond 3 was completely dry and had clearly been so for many years;
- mature Crack-willow (*Salix fragilis*) trees grow within the area of the pond; and,
- a Badger sett is situated at the east-end of the area of the pond.

Pond 3 is wholly unsuitable for occupation by Great crested newts and other amphibians, and it is extremely doubtful that Pond 3 would be used by Great crested newts for breeding purposes.

Considering the nature of Pond 3 it was not possible, or necessary, to calculate an accurate Habitat Suitability Index score to quantify the likelihood of Great crested newts using the Pond 3 for breeding purposes.

6.5.5 Pond 4

Surveyor access to Pond 4 was not provided.
However, freely available aerial photographs indicate that Pond 4 is no longer in existence. Therefore, Pond 4 is not considered further.

6.5.6 Pond 5

At the time of survey Pond 5 was not apparent and appeared to have, historically, been infilled. Therefore, Pond 5 is not considered further.

6.5.7 Pond 6

Pond 6 is situated within a large arable field.

6.5.7.1 Terrestrial habitat between The Site and Pond 6

The habitat between The Site and Pond 6 consists of intensively managed arable land.

6.5.7.2 Habitat connectivity

There is no direct habitat link between The Site and Pond 6; however, hedgerows provide an indirect link.

6.5.7.3 Aquatic Habitat of Pond 6

It is understood from the owner of Crawforton that Pond 6 used to be stocked with fish. However, these were all removed by (a) Heron(s).
Pond 6 has an approximate surface area of 120^2m.

6.5.7.4 Habitat Suitability Index

The HSI Score for Pond 6 was calculated as follows:

HSI variable	Comment	Score
SI1 - Location	-	1.00
SI2 - Pond area	-	0.30
SI3 - Pond drying	Assumed value: 'never dries'	0.90
SI4 - Water quality	'Moderate'	0.67
SI4 – Shade	-	1.00
SI6 – Fowl	'Minor'	0.67
SI7 – Fish	'Absent'	1.00
SI8 – Nearby ponds	Ponds known/considered to exist	0.80
SI9 - Terrestrial habitat	'Poor'	0.33
SI10 – Macrophytes	Assumed value during the months of spring	0.80
HSI		**0.69**

The HSI score of the Pond 6 is 0.69.
Pond 6 provides 'average' habitat for Great crested newts to use for breeding purposes.

6.5.7.5 Rapid Risk Assessment Tool

Assuming Pond 6 continues to be used by Great crested newts for breeding purposes:
The Natural England 'rapid risk assessment' tool shows the potential affect of developing the whole of The Site (i.e. 0.39 hectares) on Great crested newts is: 'Green: Offence Highly Unlikely'.
Notional offence probability score 0.1.

6.5.8 Pond 7

Surveyor access to Pond 7 was not provided.
However, freely available aerial photographs indicate that Pond 7 is no longer in existence. Therefore, Pond 7 is not considered further.

6.6 Conclusion

There is a record of Great crested newt within 1km of The Site (Desk Study - Section 3).

One surveyed pond – Pond 1 – is within 50m of The Site and potentially provides Great crested newt breeding habitat. Should Great crested newt use Pond 1 for breeding purposes it is possible that these newts may, occasionally, be present on The Site and it boundaries.

One non-surveyed pond – Pond 2 – which is within 100m of The Site – may also provide Great crested newt breeding habitat. However, it is possible that the A49 may act as a physical barrier to the dispersal/movement of Great crested newts that may be present in Pond 2 (should Pond 2 still exist).

Pond 6 potentially provides Great crested newt breeding habitat. However, should Pond 6, only, be used by Great crested newts for breeding purposes; the development of The Site would be unlikely to negatively affect Great crested newt.

Considering the above, further Great crested newt survey work (of Pond 1 and, if possible, Pond 2) is necessary to inform the proposed development.

7. ECOLOGICAL ASSESSMENT CONCLUSIONS

7.1 Desk Study (Section 3)

There are no County Wildlife Sites or other wildlife designated sites within 1km of The Site.

It is not considered that there are records of protected flora or fauna directly on The Site; however, there are records of Badger, Bat, Bird, Great crested newt, Hedgehog, Otter, Water vole and Vascular plant within 1km of The Site.

Badger:
There are records of Badger within 1km of The Site.
It is not envisaged that development of The Site would negatively affect the conservation status of Badger identified within the Desk Study.
However, it is possible that Badger may occasionally traverse and/or forage on The Site.
Mitigation for Badger is contained in Section 8.1.

Bat:
There is a record of bat within 1km of The Site.
It is not envisaged that development of The Site would negatively affect the conservation status of the bat (species) identified within the Desk Study.
Trees on/bounding The Site have been subject to an Initial Bat Survey (Section 5).
The Site and its boundaries may be used by bats for foraging.
Mitigation for bats is contained in Section 8.2.

Bird:
There are records of birds within 1km of The Site.
The Site offers nesting opportunity for Small Breeding Birds, and it may be used by birds for foraging.
Mitigation for Small Breeding Birds is contained in Section 8.3.

Great crested newt:
There is a record of Great crested newt within 1km of The Site.
Potential Great crested newt breeding habitat has been identified within 250m of The Site and further Great crested newt assessment/survey is required to inform the proposed development of The Site. See Section 9.1.

Hedgehog:
There is a record of Hedgehog within 1km of The Site.
The Site offers nesting opportunity for Hedgehog. Furthermore, Hedgehog may traverse The Site and/or use The Site for foraging purposes.
Mitigation for Hedgehog is contained in Section 8.4.

Otter:
There are records of Otter within 1km of The Site.
It is not envisaged that development of The Site would negatively affect the conservation status of Otter identified within the Desk Study.

Water vole:
There is a record of Water vole immediately adjacent to The Site.
However, it is not envisaged that development of The Site would negatively affect the conservation status of Water vole identified within the Desk Study.

Vascular plants:
There are records of Vascular plants within 1km of The Site.

It is not envisaged that development of The Site would negatively affect the conservation status of Vascular plants identified within the Desk Study.

7.2 Extended Phase One Habitat Survey (Section 4)

The Extended Phase One Habitat Survey concluded that the flora of The Site is of low conservation value.

However:

- Badger may, occasionally, traverse The Site and/or use it for foraging purposes. Should the proposed development be carried out mitigation for Badger should be adhered to.
  Mitigation for Badger is contained in Section 8.1.

- The Site may be used by bats for foraging purposes. It is recommended that a bat-sensitive external lighting scheme be designed.
  Mitigation for bats is contained in Section 8.2.

- vegetation on and bounding The Site may be used by Small Breeding Birds for nesting purposes. Should the proposed development be carried out mitigation for Small Breeding Birds should be adhered to.
  Mitigation for Small Breeding Birds is contained in Section 8.3.

- The Site may be traversed by Hedgehog and/or used by Hedgehog for foraging purposes.
  Mitigation for Hedgehog is contained in Section 8.4.

7.3 Initial Bat Survey (Section 5)

Trees on The Site, and trees within its immediate vicinity, were identified as possibly providing bat roosting habitat and were subject to an Initial Bat Survey.

The results of the Initial Bat Survey determined that trees on The Site and trees within the immediate vicinity of The Site do not provide bat roosting potential.

Therefore, it is not considered that bats directly impose a constraint on the potential for trees on The Site to be removed.

It is not considered necessary that further bat-specific survey work of the trees on The Site (or immediately adjacent to it) be carried out to inform the proposed development.

It is not necessary for a European Protected Species Licence for bats to be granted by Natural England to allow the trees on The Site to be removed.

Should the proposed development receive planning approval, it is recommended that a bat-sensitive external lighting scheme be designed.
Mitigation for bats is contained in Section 8.2.

7.4 Great crested newt (Section 6)

There is a record of Great crested newt within 1km of The Site.

A pond suitable for use by Great crested newt for breeding purposes is situated within 50m of The Site and further Great crested newt breeding opportunity may exist within 100m of The Site.

Should Great crested newt use these ponds for breeding purposes, in the absence of mitigation, it is possible that the development of The Site may cause the killing and/or injury of Great crested newts and the possible destruction of their terrestrial habitat.

Therefore, further Great crested newt survey work is necessary to inform the proposed development.

Recommended future Great crested newt survey work to inform the proposed development is contained in Section 9.1.

7.5 Future ecological value of The Site

Wherever possible, trees and vegetation bounding The Site should be retained.

The ecological value of The Site post-development may be enhanced by:
- the installation of purpose-made bird nesting features;
- the installation of purpose-made bat roosting features;
- sympathetic design for Hedgehog;
- the installation of purpose-made Hedgehog nesting features; and,
- the planting of hedges and/or the planting of trees.

Recommendations for biodiversity compensation and/or enhancement are contained in Section 10.

8. MITIGATION

8.1 Badger

8.1.1 Legislation

Badgers (*Meles meles*) and their setts are protected by The Protection of Badgers Act 1992.

Under this legislation it is illegal to:

- wilfully kill, injure or take, or attempt to kill, injure or take, a Badger;
- cruelly ill-treating a Badger, digging for Badgers, using Badger tongs, using a firearm other than the type specified under the exceptions within the Act;
- interfere with a Badger sett by damaging, destroying, obstructing, causing a dog to enter a sett, disturbing an occupied sett - either by intent or by negligence;
- sell or offer for sale a live Badger, having possession or control of a live Badger;
- mark, attach a ring, tag, or other marking device to a Badger.

A Natural England Badger Disturbance Licence may be required for development works affecting Badgers.

8.1.2 Mitigation

1) All personnel working on the site during development works should be made aware that Badgers use the site and that precautions to minimise the risk of injuring or killing Badgers are to be adopted.

2) Excavated footings, post-holes, pipe trenches etc. will need to be filled on the same day as they are opened. Should the time between excavation and filling of foundations or ditches need to be extended, due to unforeseen circumstances, it will be necessary to prevent any chance of Badgers becoming trapped in excavations.

   This may be achieved by covering the excavations with ply-board sheeting or similar, ensuring a good seal between the bottom edge of the board and firm ground substrate.

   Should it not be possible to cover all excavations, wooden boards should be placed extending from the bottom of excavations to the surrounding surface.
   Should Badgers become trapped in excavations, these 'ramps' may potentially allow Badgers a method of escaping on their own accord.

   Prior to works re-commencing excavations should be inspected for the presence of Badgers.

3) As a precaution, in case a Badger falls victim to site conditions, the site management should hold the contact details of a suitably experienced Badger worker.
   Site personnel should not attempt to remove or recover a trapped or injured Badger.

8.2 Bat

External Lighting

In order to avoid any unnecessary disturbance to bats in the future, any external lighting to be installed should be low powered and on short-timed Passive Infrared (PIR) sensitive to large objects only.

Usually, 11 watt low energy lights that are PIR activated may be appropriate for such developments.

Lighting should not be in the vicinity of, or shine towards, Bat Boxes, or bat roost openings, or boundary hedges and/or trees.

8.3 Small Breeding Bird

8.3.1 Legislation

Nesting birds are protected by the Wildlife and Countryside Act 1981.
Under the Wildlife and Countryside Act 1981, all birds are protected while breeding. It is an offence, with certain exceptions to:

- intentionally kill, injure or take any wild bird;
- intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- intentionally take or destroy the egg of any wild bird.

8.3.2 Mitigation

Vegetation clearance (i.e. the removal of trees and/or hedges) may only be carried out when no nesting birds are present i.e. between 1st October and 1st March.

Should it be required that vegetation clearance takes place within the bird breeding season, a survey should be carried out by a suitably qualified ecologist to ascertain whether breeding birds are present or not; should no breeding birds be present, it may be possible for vegetation clearance work to commence.

If it is anticipated that the vegetation is to be removed within the bird breeding season (and there are no birds nesting within it) a physical barrier that prevents birds from gaining access to the structure of the vegetation may be installed, ideally in the February preceding the removal.

Recommended physical barriers include:
- multiple-layers of ‘orchard protective netting’ – commonly used in the horticultural industry; and,
- ‘debris netting’ – commonly used in the construction and scaffolding industries.

8.4 Hedgehog

8.4.1 Legislation and policy

(European) Hedgehog (*Erinaceus europaeus*) are:
- listed on Appendix III of the Bern Convention;
- protected from harm under Schedule 6 of the Wildlife and Countryside Act 1981;
- are Species of Principal Importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006;
- listed as a Priority Species for conservation action under the United Kingdom Biodiversity Action Plan.

8.4.2 Mitigation - Clearance of vegetation, piles of debris *et cetera*

Hedgehog nests may be constructed in and around areas of overgrown/scrub vegetation, under brash piles and/or rubble piles *et cetera*.

Hedgehogs are particularly vulnerable to disturbance between May and October when litters of hoglets are born and during the winter months when they may be hibernating.

Where Hedgehog are known to be present on or within the vicinity of the development site, or there is risk of them being present on the development site: the removal of vegetation, piles of debris *et cetera* should be carried out between March and October (i.e. when Hedgehog are active).
However, should Small Breeding Birds be nesting within vegetation, or there is a risk of their presence: removal of vegetation may only be carried out:
- when birds have vacated their nest(s); or,
- between 1st October and 1st November.

To decrease the risk of disturbing Hedgehogs that may reside within vegetation, piles of debris *et cetera*, wherever possible the material to be removed should be (carefully) inspected by hand for the presence of Hedgehog.

Where no Hedgehog are found:
- clearance work may commence with care and caution and site operatives should maintain vigilance for Hedgehog.
- Should Hedgehog be inadvertently found, work should immediately cease and the instructions below followed.

Where Hedgehog are found:
- between 1st November and 1st March:
- hibernating Hedgehog should be left undisturbed until they naturally awaken and vacate the vegetation, piles of debris *et cetera*. (Development delays will be inevitable until Hedgehog vacate on their own accord).
- between 1st March and 1st November:
- should non-breeding Hedgehog be found; the animal(s) may be carefully removed out of (imminent) harm's way and moved to another suitable place of rest and shelter.
- should a breeding nest (with sow and hoglets) be found, and *not* disturbed; the nest and Hedgehogs within it should be left for a period of approximately 28 days, after which the juvenile Hedgehogs should become independent and the nest should be vacant.
- should a breeding nest (with sow and hoglets) be found and, inadvertently, disturbed: there is a possibility that the sow may abandon the nest risking the survival of the hoglets. Should this be case, professional guidance should be immediately sought to protect the welfare of the Hedgehog and their long-term survival. (Contact details for professional guidance are provided below).

Hedgehog welfare and protection advice may be sought from:

British Hedgehog Preservation Society
Hedgehog House, Dhustone, Ludlow, Shropshire, SY8 3PL
Telephone: 01584 890 801
Website: http://www.britishhedgehogs.org.uk/

Cuan Wildlife Rescue
4 Barrow Street, Much Wenlock, Shropshire, TF13 6ES
Telephone: 01952 728070
Website: http://www.cuanhouse.org.uk/

8.4.3 Mitigation - Excavations and ground-works

Excavated footings, post-holes, pipe trenches etc. will need to be filled on the same day as they are opened.

Should the time between excavation and filling of foundations or trenches need to be extended, due to unforeseen circumstances, it will be necessary to prevent any chance of Hedgehog, or other wildlife, becoming trapped in excavations.

This may be achieved by:

Covers:
Covering the excavations with ply-board sheeting or similar, ensuring a good seal between the bottom edge of the board and firm ground substrate.

Ramps:
Should it not be possible to cover all excavations, wooden boards (or similar) will be placed extending from the bottom of excavations to the surrounding surface.
Should Hedgehog, or small mammals, become trapped in excavations, these 'ramps' may potentially allow Hedgehog, and small mammals, a method of escaping on their own accord.

Each morning; excavations should be inspected for the presence of Hedgehog.
Should Hedgehog be present, they should be removed from the excavation and, if they are healthy, released within suitable habitat, away from the development site.

9. RECOMMENDED FUTURE SURVEY

9.1 Great Crested Newt

9.1.1 Assessment

Ideally, surveyor access should be provided to Pond 2 (if it still exists).
If possible Pond 2 should be assessed using the Habitat Suitability Index scoring system for its suitability to be used by Great crested newts for breeding purposes.

9.1.2 Survey

Pond 1 and, if possible, Pond 2, should be subject to (a) Great Crested Newt Presence/Absence Survey(s).

The Great Crested Newt Presence/Absence Survey(s) should be carried out to in accordance with Natural England's Great crested newt survey guidelines.
I.e.:

- four survey visits for Great crested newt should be made between mid-March and mid-June with at least 2 visits between mid-April and mid-May;
- and at least three survey methods should be used on each survey visit (preferably torch survey, bottle-trapping, and egg searching).

If Great crested newts are discovered within the waterbody/flooded area; it may be necessary to carry out (a) population size class estimate(s).
An additional two survey visits should be carried out within the (above) specified time period.
An estimate may then be made of the likely number of Great crested newts present within the pond(s) and the landscape surrounding The Site.

10. BIODIVERSITY COMPENSATION/ENHANCEMENT

10.1 Planning Policy

10.1.1 National Planning Policy Framework

Paragraph 117 of the National Planning Policy Framework states (refer to bullet point three):
"To minimise impacts on biodiversity and geodiversity, planning policies should....promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations...."

Bullet point four of Paragraph 118 of the National Planning Policy Framework states: "opportunities to incorporate biodiversity in and around developments should be encouraged".

10.1.2 Natural Environment and Rural Communities Act (2006)

Section 40 of the Natural Environment and Rural Communities Act (2006) states: "Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity".

Section 40(3) of Natural Environment and Rural Communities Act (2006): "conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat".

10.2 Small Breeding Bird

In order to encourage wildlife to reside on The Site, or within its immediate surrounds, in the future it is recommended that a minimum number of:
- two Schwegler 1B Bird Nest Boxes;
- two Schwegler 3SV with Predator Protection Bird Nest Boxes; and,
- two Schwegler 2H Open Fronted Bird Boxes

(or similar alternatives) be installed on The Site, or within its immediate vicinity, post-development.

Boxes should be installed at a minimum of 4m from the ground and in locations subject to low future disturbance.

10.3 Bat

In order to encourage wildlife to reside on The Site, or within its immediate surrounds, in the future it is recommended that a minimum number of:
- two Schwegler 1FR Bat Tubes or two Wienerberger EcoSurv Bat Boxes (or similar alternatives) are built into an exterior wall(s) of any proposed new buildings; or,
- two Schwegler 2FN Bat Boxes and two Schwegler 2F Bat Boxes (or similar alternatives) are installed on The Site, or within its immediate vicinity, post-development.

Boxes should be installed at a minimum of 4m from the ground and in locations subject to low future disturbance.

If appropriate: in addition or alternatively to purpose-made bat boxes, custom bat roosting provision (such as 'Bat Lofts', 'Eaves Boxes', 'Exterior Common Rafter Bat Crevices', 'Loft Boxes', 'Rafter Boxes', 'Raise Ridge Tiles' and/or 'Soffit Box Bat Roosts') may be installed and/or created within the structural fabric of proposed buildings.

10.4 Hedgehog

Gates proposed to be installed within the development should have a minimum ground clearance of 100mm.

Every 4-6m, ground level holes, a minimum of 100mm high (vertical) and 100mm wide (horizontal), should be created within proposed boundary fencing to be installed.

A minimum of:

- one purpose-made Hedgehog hibernation nest box/refuge (e.g. Schwegler Hedgehog Dome); and,
- one purpose-made Hedgehog summer/breeding nest box/refuge (e.g. Hogitat Hedgehog Home)

should be installed within The Site, post-development.

10.5 Wildlife Hedge and/or Tree Planting

Wherever possible, hedgerows within or bounding The Site should be retained and all existing (mature) trees should be retained.

New hedgerows may be planted and/or existing hedgerows supplementary planted. Recommendations are provided in Section 10.5.1.

Open spaces to be created within the proposed development may be planted within fruit trees.
Recommendations are provided in Section 10.5.2.

10.5.1 Hedgerow/shrub planting

Open spaces may be planted with shrubs to provide shelter and foraging areas for wildlife.
Ideally, a minimum of four species of shrub should be planted.

Native species of local provenance are preferred.
Ideally, potted stock should be in non-peat compost.

Favourable native plant species that may be incorporated in hedgerow boundaries and/or shrubberies include:

Common English Name	Scientific Name
Blackthorn	*Prunus spinosa*
Common Beech	*Fagus sylvatica*
Dogwood	*Cornus sanguinea*
Field Maple	*Acer campestre*
Field Rose	*Rosa arvensis*
Guelder Rose	*Viburnum Opulus*
Hawthorn	*Crataegus monogyna*
Honeysuckle	*Lonicera periclymenum*
Oak	*Quercus robur/ petraea*
Rowan	*Sorbus aucuparia*
Spindle	*Euonymus europaeus*
Wayfaring Tree	*Viburnum lantana*

10.5.2 Standard/Fruit Trees

New native tree planting within (public) open spaces and/or along (retained) boundaries may encourage wildlife to forage on The Site. Trees may be half-standard or standard size. Standard trees provide instant habitat for birds and insects. Species should be those that provide a good mast crop (i.e. seeds), and ideally a mixture of species should be planted.

Tree stakes should be low (maximum 0.60 metres above ground), at an angle to avoid roots, and removed in year three.
The fecundity of trees should be monitored and dead and/or damaged plants suitably replaced.

Ideally, a minimum of three tree species should be planted.
Favourable tree species include:

Common English Name	Scientific Name
Apple	*Malus sp.*
Cherry	*Prunus var.*
Cobnut / Filbert	*Corylus var.*
Crab-apple	*Malus sylvestris*
Damson	*Prunus var.*
Mountain Ash	*Sorbus aucuparia*
Mulberry	*Morus nigra*
Pear	*Pyrus sp.*
Plum / Greengage	*Prunus var.*
Silver Birch	*Betula pendula*
Small-leafed Lime	*Tilia cordata*
Walnut	*Juglans regia*
Wild Cherry	*Prunus avium*

11. RELEVANT PUBLICATIONS

Bat Conservation Trust and Institute of Lighting Professionals (2008). Bats and Lighting in the UK. *Bats and the Built Environment Series*.

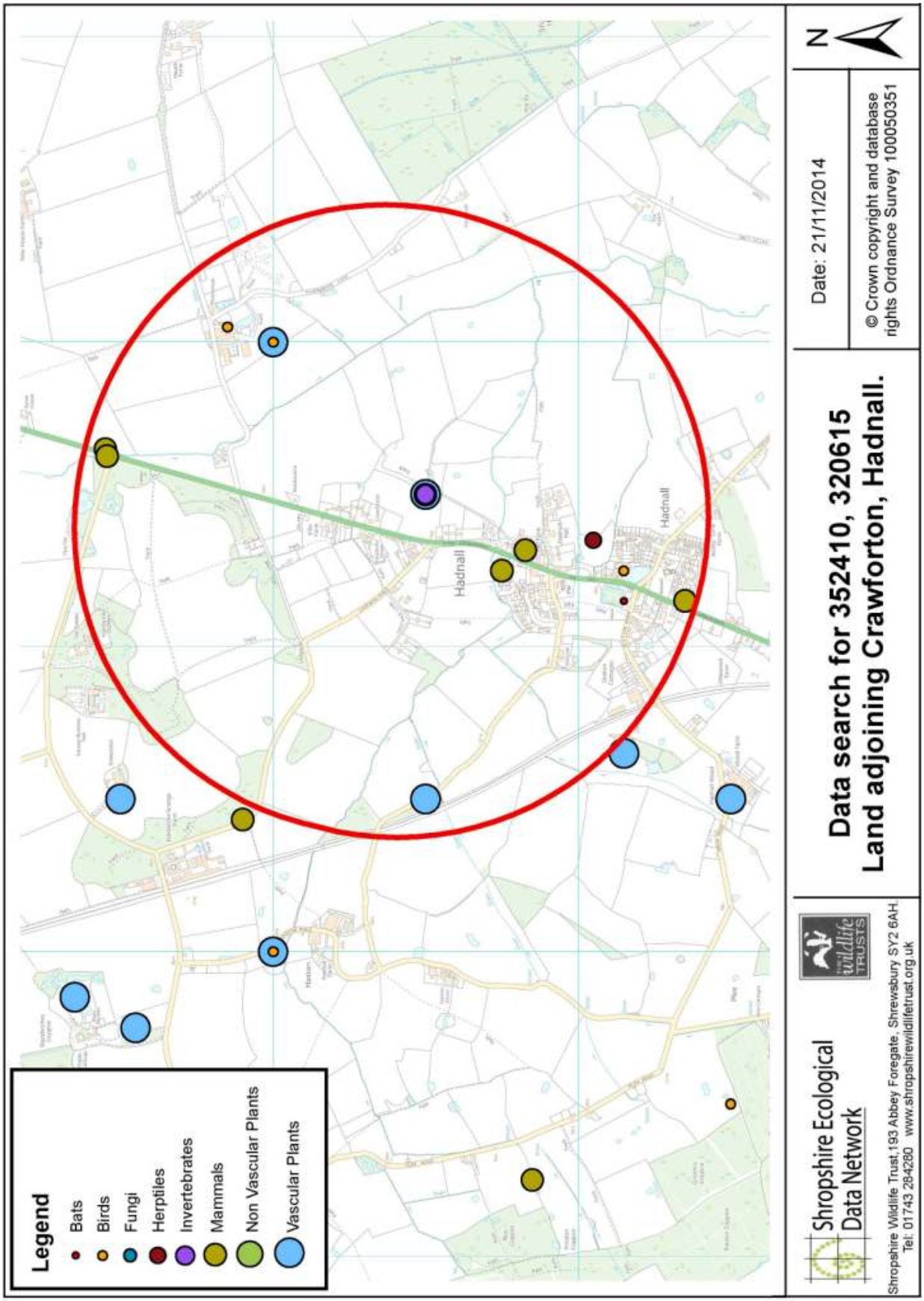
English Nature (2001). *Great crested newt mitigation guidelines – working today for nature tomorrow.* English Nature, Peterborough, England.

Hundt, L. (2012) Bat Surveys: Good Practice Guidelines, 2nd ed., Bat Conservation Trust.

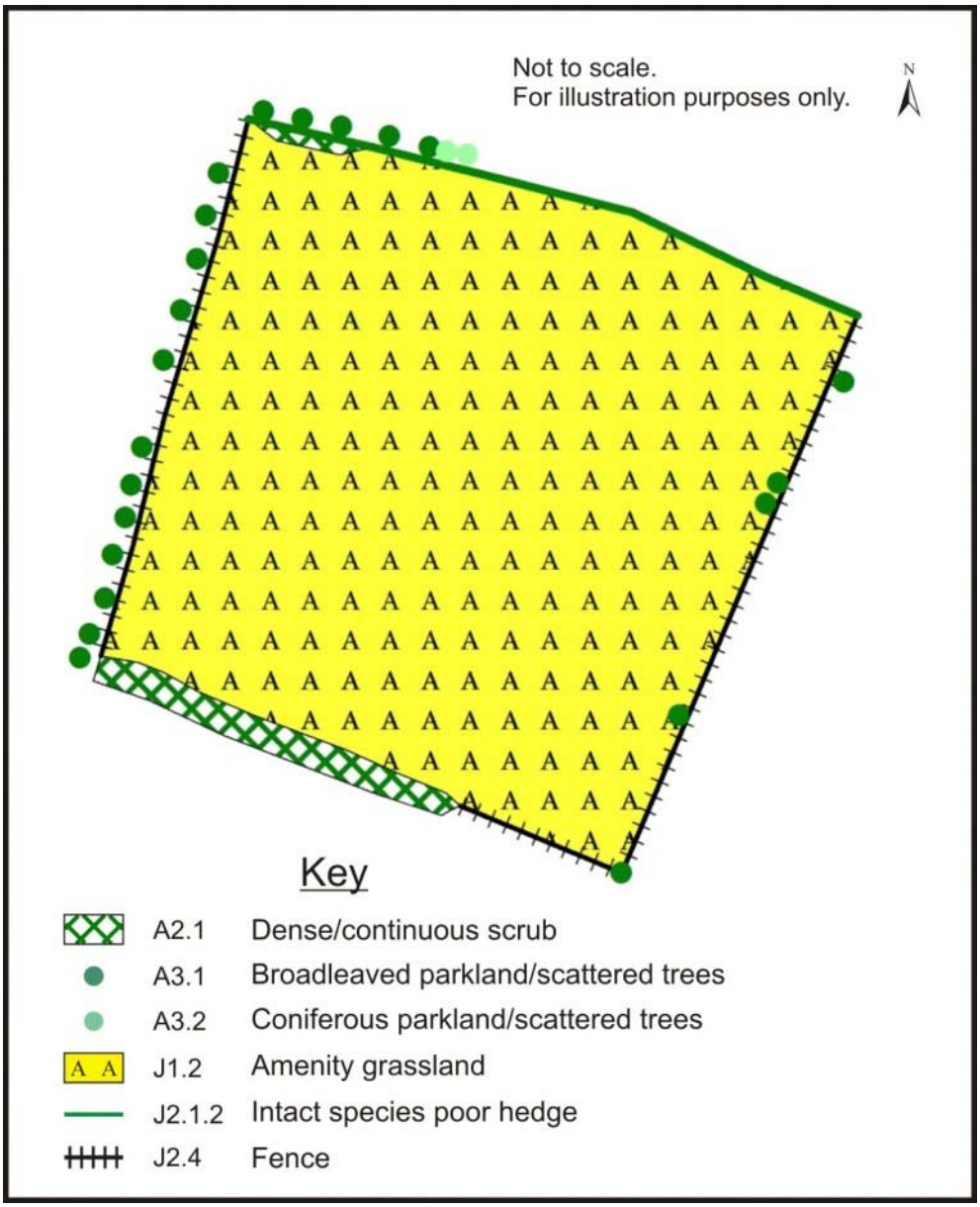
JNCC, (1993). Handbook for Phase 1 Habitat Survey: A technique for environmental audit (reprint). Joint Nature Conservation Committee, Peterborough.

Natural England (2010). European Protected Species Method Statement document wmla142-2_tcm6-4103.xls.

APPENDIX 1 – Shropshire Ecological Record Centre Data Search



APPENDIX 2 – Extended Phase One Habitat Map



APPENDIX 3 – Site Photographs

The Site.
Foreground: View of the central, amenity grassland, area.
Mid-ground: Fence and scrub along/forming the South boundary.
Looking south from north.

The Site.
Left: South side of the North boundary.
Right: Amenity grassland.
Looking east from west.

The Site.
Upper left: South side of the east-end of the North boundary.
Lower left: Amenity grassland.
Lower right-to-upper left: Fence forming the east boundary.
Right: Adjoining arable field.
Looking northeast from southwest.

The Site.
Left: Fence and scrub along/forming the South boundary.
Upper right: East side of the south-end of the West boundary.
Lower left, centre and right: Amenity grassland.
Looking west from east.

The Site.
Left: Neighbouring arable field.
Centre: Area of dense/continuous scrub along/forming part of the South boundary.
Looking northwest from southeast.

The Site.
Left: Amenity grassland.
Right: East side of the West boundary.
Looking south from north.

The Site.
View of part of the west side of the West boundary.
Looking northeast from southwest.

The Site.
View of the central area.
Looking northwest from southeast.

APPENDIX 4 – Pond Photographs

View of **Pond 1**.
Looking north from south.

View of trees and scrub within area of former **Pond 3**.
Looking east from west.

View of the area of former **Pond 5**.
Looking southeast from northwest.

View of **Pond 6**.
Looking north from south.