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**Client Name: Mr and Mrs Brassey**

**Site Address: Shoot Hill Cottage  
Ford  
Shrewsbury  
SY5 9NR**

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Whilst the surveyors make every reasonable effort, Greenscape Environmental Ltd cannot guarantee that all protected species have been identified and survey results are definitive. Many species are cryptic and transitional in habit.

Reports are considered valid for one year for planning purposes, after which time further survey information may be required.

Greenscape Environmental Ltd can provide advice and support for recommendations and planning conditions.

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## 1 Executive Summary

### 1.1 Purpose of the Report

Greenscape Environmental Ltd was commissioned by Craig Marston of KE Design on behalf of the clients, Mr and Mrs Brassey, to undertake a preliminary ecological appraisal of Shoot Hill cottage to provide supporting information for a planning application for an upper floor and ground floor extension to the house.

The survey report has these principal aims:

- To provide an initial assessment of the ecological value of the site in local context.
- To provide details supporting further surveys that may be required.
- To identify potential ecological constraints relating to the development, and recommend measures to avoid, reduce or manage negative effects, and to provide a net ecological gain.

### 1.2 Methodology

The appraisal included a desktop study, and a site visit undertaken at the site, OS grid reference SJ41821243 on 7<sup>th</sup> October 2021 by Chloe Sheil. Phase 2 bat surveys were undertaken throughout May and June 2022.

### 1.3 Key Impacts and Mitigation Measures

The desktop study included a search for nearby designated sites and previously recorded protected species. It was considered that the site would provide potential habitat for bat and bird species, and these should be the main focus of the ecological appraisal.

The site comprises a brick bungalow and a small area of hardstanding.

Evidence of bats was found in the loft, directly under a potential roost point on the ridge of the roof. Phase 2 surveys, however, found no evidence of roosting bats within the building. **Work will proceed under a method statement for bats without the need for a mitigation licence.**

Potential habitat for birds was found under the eaves of the building. The work must be done outside of the bird nesting season which is March to August inclusive.

Pond 2 is the nearest extant pond and scored 0.37 – Poor on the HSI assessment. This is over 100m from the site and the site itself is of negligible value to newts. It is considered highly unlikely that an offence will be committed. No further surveys for newts are needed.

### 1.4 Conclusion

It is recommended that the biodiversity value of the site will be enhanced post-construction with the inclusion of bat and bird boxes. The method statements provided in section 6.3.2, 6.5.2 and 6.6.2 of this report will be followed, and work will be conducted at a suitable time of year to minimise potential impacts.



## 2 Introduction

This report has been compiled by Chloe Sheil MZool (Conservation) who has 4 years' experience conducting ecological appraisals. It has been reviewed in line with Greenscape's Quality Management System.

For full details of surveyors and licences please see Appendix A.

### 2.1 Project Background

Greenscape Environmental Ltd was commissioned by Craig Marston to conduct a survey to determine the presence of protected species and potential for the damage or destruction of habitats of value. This forms part of the planning application for extensions to the ground floor and upper floor at Shoot hill Cottage.

### 2.2 Purpose of the Report

This report aims to:

- Identify the key ecological constraints to the proposed development.
- Inform planning to allow significant ecological effects to be minimised or avoided where possible.
- Allow any necessary mitigation or compensation measures to be developed following the mitigation hierarchy.
- Identify any additional surveys that may be required to inform the assessment.
- Identify the opportunities offered by a project to deliver ecological enhancement under NPPF Section 15.

The Local Planning Authority have requested further information regarding bats and great crested newts because of the proximity of several ponds to the development site, and the demolition of potential bat roosts in loft spaces.

### 2.3 Site Context and Location

The site is located in open countryside west of Shrewsbury, OS grid reference SJ41821243. It is set in a rural environment surrounded by arable fields and small coppices of trees. There is potential connectivity to the nearby coppices and surrounding countryside via hedgerows and tree lines. Smaller patches of woodland are 200m north and east, with larger areas 750m east. The nearest water is a pond 130m to the west. The surrounds provide potential foraging, resting, and commuting opportunities for bats and great crested newts in hedges and woodland.



## **3 Methodology**

Broad methodologies for data collection and interpretation were informed by guidance outlined in CIEEM (2017) – Guidelines for Preliminary Ecological Appraisals. Full details can be found in Appendix B.

### **3.1 Desk Study**

The desk study provides contextual information such as the site's proximity to designated areas and known records of protected or notable species.

### **3.2 Field Survey**

#### **3.2.1 Date and Survey Conditions**

The PEA was conducted on 7<sup>th</sup> October 2021 by C Sheil. Phase 2 bat surveys were conducted in May and June 2022 by C Sheil, B Jones, P Playford and S Watts. Survey conditions were optimal for all surveys conducted.

#### **3.2.2 Habitats**

The level of survey is aimed to identify field signs of, or habitats with the potential to support protected species and therefore assist in the determination of site value.

### **3.3 Species Survey**

Features on site were assessed for potential for bat roosts, foraging and commuting. Phase 2 surveys were conducted to confirm the presence/absence of any roosts, roost characterisation, access points and significance of the roosts. These were conducted in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 3<sup>rd</sup> Edition, BCT, Collins (ed.) (2016).

Features on site were assessed for potential for nesting birds.

The assessment of aquatic habitat for great crested newts is based on the Habitat Suitability Index.

The terrestrial habitats at the application site were surveyed and assessed with respect to suitability and potential value for great crested newts.

### **3.4 Constraints of the Survey**

All areas were accessible for this survey. It was conducted at a suboptimal time of year for the assessment of bat roosts, but this was not considered a constraint because the evidence of the bats can be seen year-round. No other specific constraints have been identified.

The internal search revealed that the buildings had not been subjected to any form of specific cleaning and was in a natural redundant state.

The HSI assessment is based on ponds as they would be during the aquatic phase of a great crested newt, between March and the end of September. Some of the factors involved in the assessment cannot be accurately determined outside of this time period; such as macrophyte cover and water quality assessments. These values are given an educated guess based on the appearance of the pond in conjunction with any local knowledge.



Brassey

The identification of calls and species using sonogram analyses are dependent on the clarity of the sonogram recording, which may be affected by the distance from the bat and background noise. Species of *Myotis* bats are identified to genus level on the basis of the inherent difficulty in distinguishing between species from their echolocation calls.

Automatic ID bat detectors were used on these surveys, and these have limitations as reported in Reason, Newson & Jones (2016). To eliminate this constraint, sonograms were manually verified.





## 4 Baseline Ecological Conditions

### 4.1 Nearby Features of Importance

#### 4.1.1 Designated Sites

The map from Natural England presented in Figure 4.1 indicated that the site is not within 1km of any designated areas.

MAGiC

Shoothill Cottage

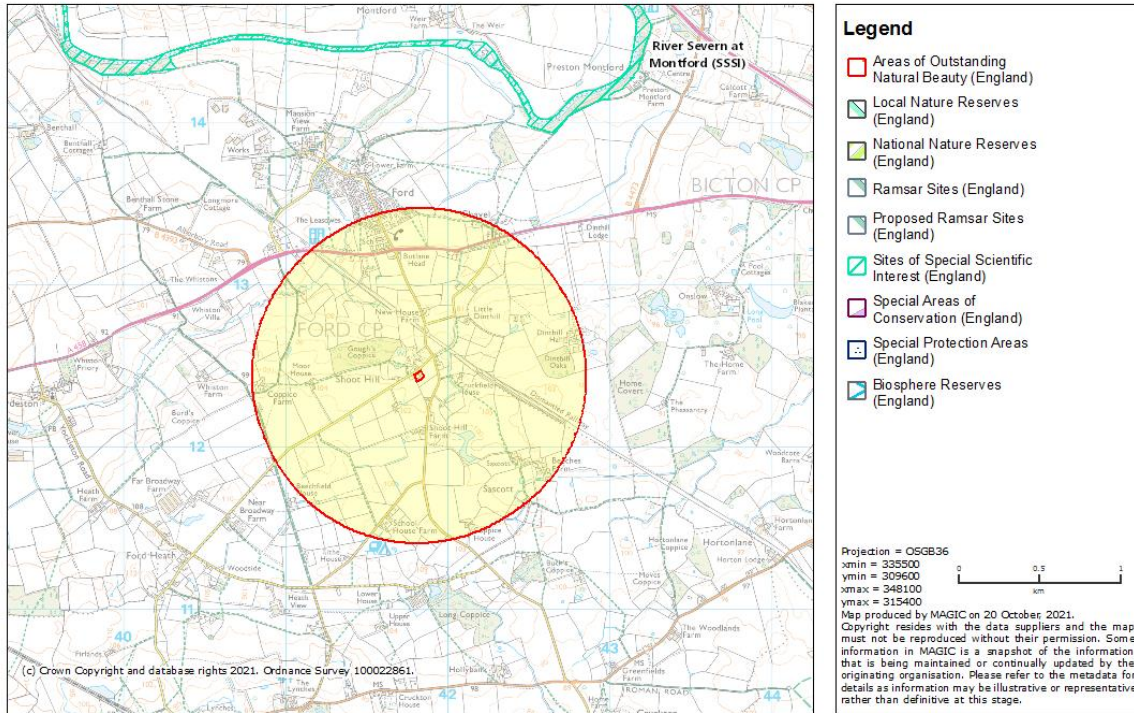


Figure 4.1. Identifying any designated areas near site, a 1km buffer is shown



The proposed development site is not situated within a core area or corridor.

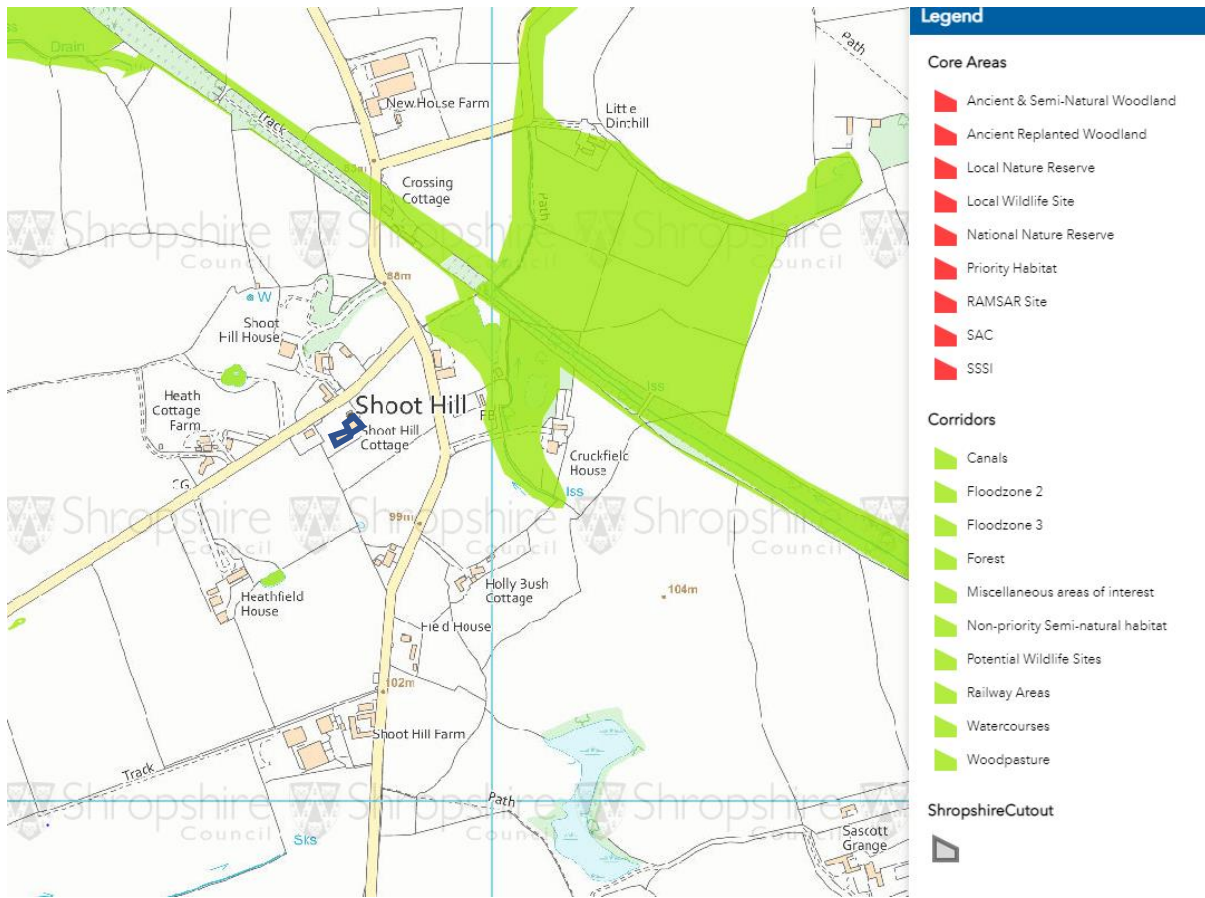


Figure 4.2. Shropshire Environmental Network map with site in blue



### 4.1.2 Nearby European Protected Species Licences

The site is within 2km of one EPS licence for bats and there are two Great Crested Newt Class Licence returns within 2km.

MAGiC

Shoothill Cottage

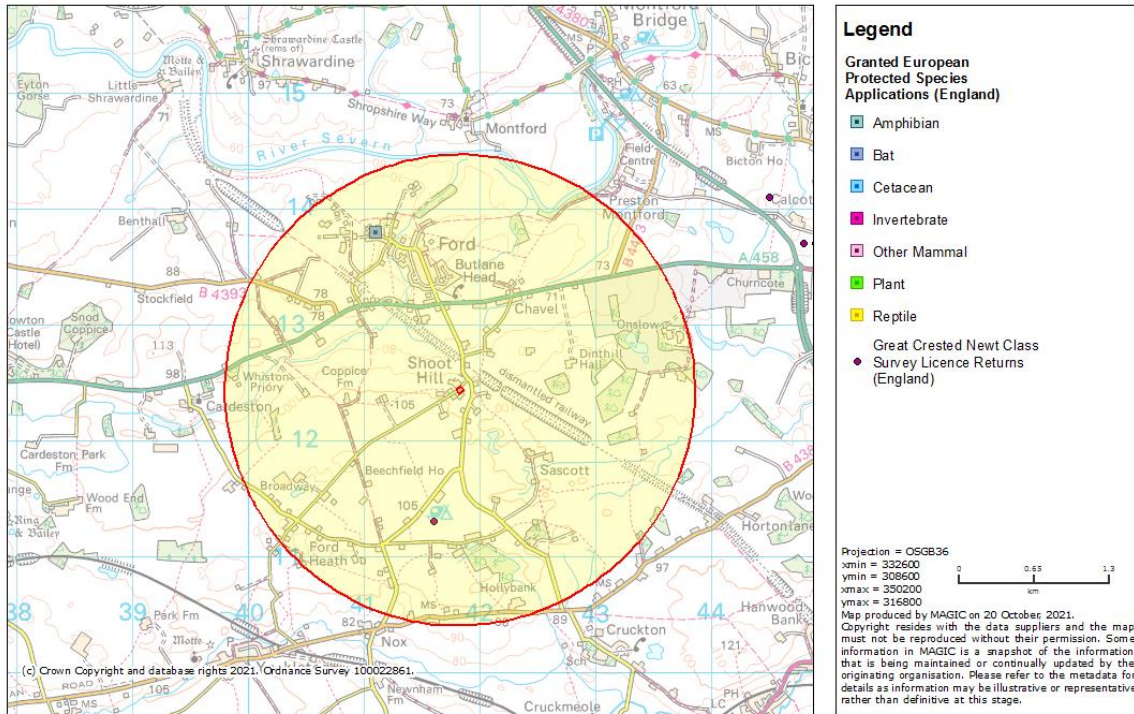


Figure 4.3. Identifying any previous EPS licences near site, a 2km buffer is shown

Table 4.1. Details of EPS licences within 2km

Licence Number	Licensable Action	Dates Covered	Species Involved	Distance from Site
EPSM2009-1983	Destruction of a resting place	16/09/2009-30/09/2010	C-Pip; BLE; Natt	1500m northwest



## 4.2 Habitats on Site

The site comprises a bungalow (J3.6) and an area of hardstanding (J4).

The bungalow is constructed of brick with a lined concrete tile roof. There is also a glass porch and conservatory.



**Figure 4.4. View of house from north**



**Figure 4.5. Conservatory**



An extension will be built on the northern section of the house.



**Figure 4.6. Area where extension will be built**

The internal inspection of the loft revealed that there is one continuous loft space over the entire building. There are dividing walls of breeze block with low doorways. The roof is supported by wooden trusses and central ridge beams and is lined with bitumen hessian felt.



**Figure 4.7. Loft space**



## 4.3 Bats

### 4.3.1 Records

Records of bats within 2km include historic records of whiskered bat (*Myotis mystacinus*) from 1900 and common pipistrelle (*Pipistrellus pipistrellus*) from 1988.

Bat species data was provided to the NBN Atlas by SEDN. Unless stated otherwise, all records are provided to the NBN Atlas under licences CC-BY or OGL.

Whilst no commercially available records exist on NBN for common pipistrelle, brown long eared (*Plecotus auritus*) and Natterer's bat (*Myotis nattereri*), EPSL data in section 4.1.2 shows that these were recorded 1.5km away in 2009.

### 4.3.2 Field Observations

The site had few features for bats. The internal inspection of the loft found holes in the bitumen hessian lining and suitable crevices between the breeze blocks.



**Figure 4.8. Hole in lining**



**Figure 4.9. Holes in wall**

Throughout most of the loft there is a lack of evidence of bats.



**Figure 4.10. Surface with no evidence of bats**



Evidence of bats was found in only one location in the loft. An old cobweb containing several bat droppings was found, some estimated to be less than a year old.



**Figure 4.11. Old cobweb with droppings**



**Figure 4.12. Bat droppings**

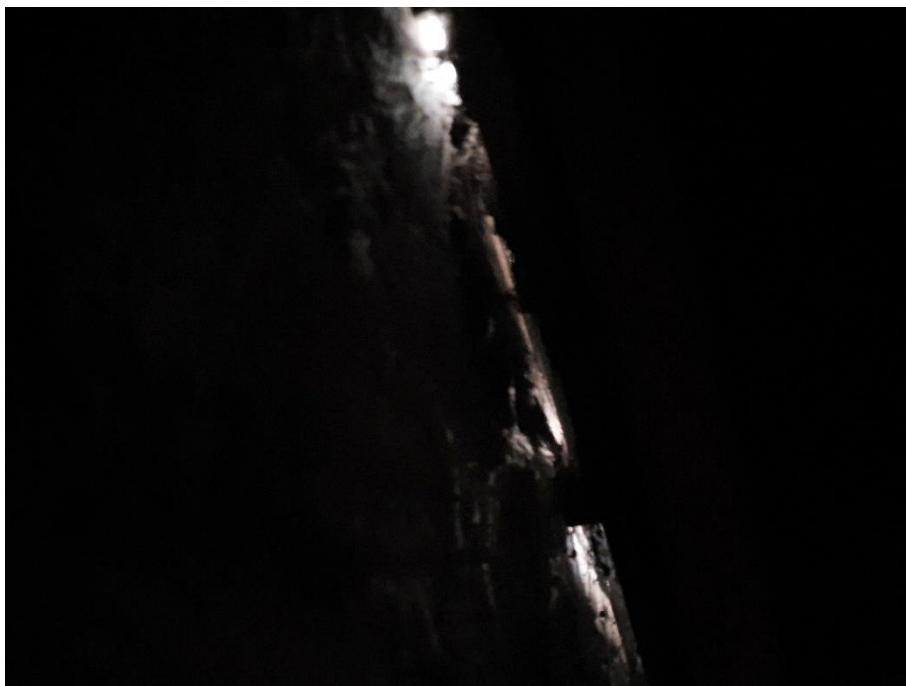




A hole above the cobweb led to the tiles, through which light could be seen.



**Figure 4.13. Hole in cobweb**



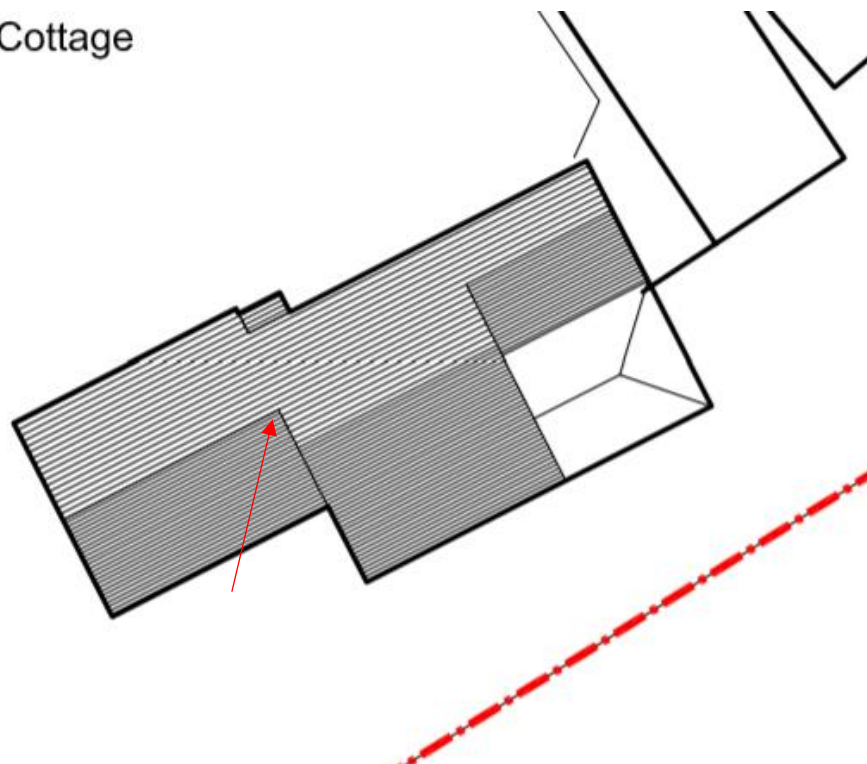
**Figure 4.14. Hole in roof**



An external inspection of the building found that the entire roof is sealed except for one area above where the droppings were found. There is no flashing between the roof tiles and the soffits, providing potential bat roost access.



Shoot Hill Cottage



**Figure 4.15. Location of access point**



## Phase 2 Bat Surveys

No bats were recorded roosting in the house. Bat activity included foraging and commuting by noctule (*Nyctalus noctula*), common pipistrelle, soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared bat.

Full details can be found in Appendix D.

## 4.4 Other Mammals

### 4.4.1 Records

Records of other mammals within 2km include European hedgehog (*Erinaceus europaeus*) in several locations to the north of site as recently as 2017 and brown hare (*Lepus europaeus*) in a number of locations 1.5-2km to the east of site in 2016 and 2017. Eurasian otter (*Lutra lutra*) has been recorded in a number of areas as recently as 2017, and Eurasian badger (*Meles meles*) in 2020 although grid references are provided with low accuracy.

Mammal data (not including bats) was provided to the NBN Atlas by SEDN. Unless stated otherwise, all records are provided to the NBN Atlas under licences CC-BY or OGL.

### 4.4.2 Field Observations

The site had no features for non-bat mammals. Neither the hardstanding or building provide habitat and no evidence was found.

## 4.5 Birds

### 4.5.1 Records

Records of birds within 2km include many common passerine species including blue tit (*Cyanistes caeruleus*), long tailed-tit (*Aegithalos caudatus*) and greenfinch (*Chloris chloris*). All bird records are provided with low accuracy grid references so specific locations cannot be determined. Of more ecological importance include records of swallow (*Hirundo rustica*) and house martin (*Delichon urbicum*), in a number of locations in 2013. Skylark (*Alauda arvensis*), little owl (*Athene noctua*), tawny owl (*Strix aluco*) and barn owl (*Tyto alba*) were also recorded in 2013.

Bird species data was provided to the NBN Atlas by SEDN. Unless stated otherwise, all records are provided to the NBN Atlas under licences CC-BY or OGL.

### 4.5.2 Field Observations

The site had few opportunities for nesting birds as parts of the eaves were covered in netting. The remaining eaves provide potential habitat but no evidence was found.



**Figure 4.16. Netting under eaves**

## **4.6 Amphibians**

### **4.6.1 Records**

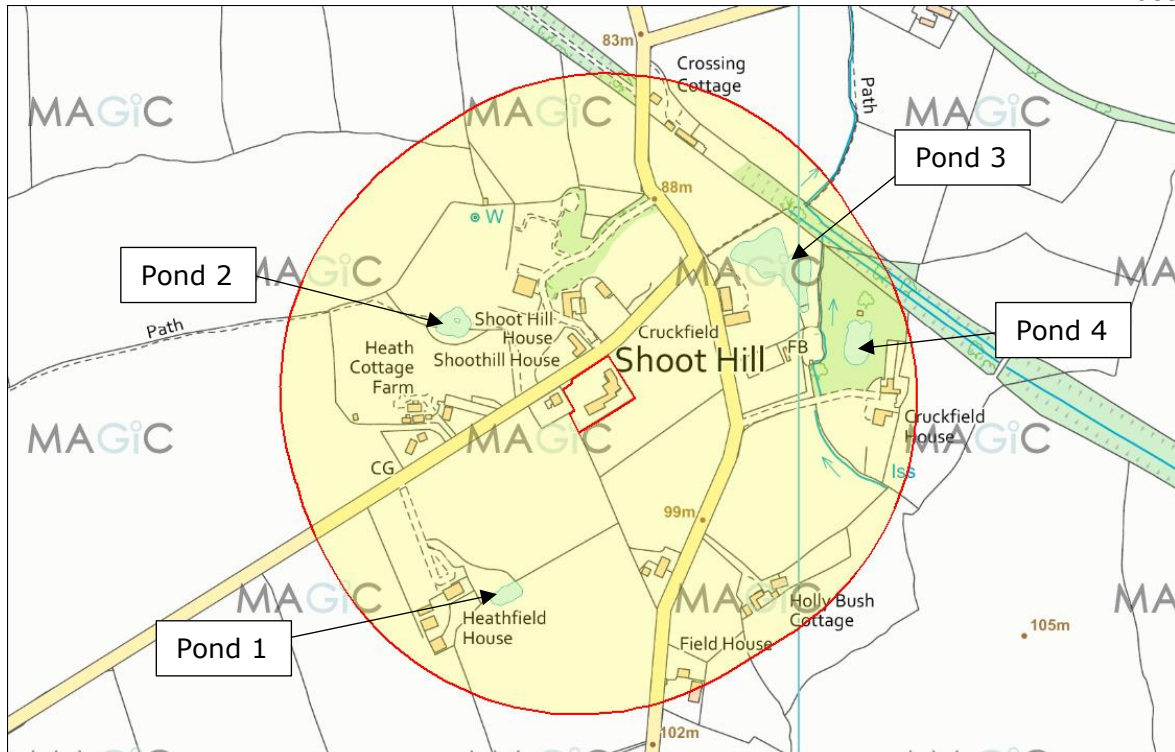
Records of amphibians within 2km include great crested newt (*Triturus cristatus*) in 2016 at a location 1km south of site.

Amphibian species data was provided to the NBN Atlas by SEDN. Unless stated otherwise, all records are provided to the NBN Atlas under licences CC-BY or OGL.

### **4.6.2 Field Observations**

The site had no features for amphibians. The building and hardstanding offer negligible value habitat to newts in their terrestrial phase.

There were four ponds found on OS maps within 250m, however ponds 1 and 3 were observed to be dry.



Map produced by MAGIC on 1 October, 2021.  
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**Figure 4.17. OS Map showing a 250m buffer around site, highlighting ponds**

**Pond 1**

This is the nearest pond to the site but was found to be dry. A ditch also runs to the pond from near the site but this is also dry.



**Figure 4.18. Area where pond 1 used to be**



**Figure 4.19. Ditch**

**Pond 2**

This is a garden pond accessed via a public right of way. It doesn't have much vegetation and there is a large number of fowl on it as they are provided for.



**Figure 4.20. Pond 2**



**Figure 4.21. Fowl provisioning**

**Table 4.2. HSI score and justification for Pond 2**

<b>Pond 2 Grid reference: SJ41691250</b>		
<b>Geographic Location</b>	1	Zone A
<b>Pond Area</b>	1	The pond is approximately 580m <sup>2</sup>
<b>Permanence</b>	0.9	Never dries
<b>Water Quality</b>	0.67	Moderate water quality. Backswimmers and bloodworms found when netting.
<b>Shade</b>	0.2	There was estimated to be 80% shading of the area within 1m of the perimeter
<b>Waterfowl</b>	0.01	Severe impact of waterfowl. Little evidence of submerged plants, water turbid, banks showing patches where vegetation removed and there is evidence of provisioning waterfowl
<b>Fish</b>	0.33	Low numbers of fish seen.
<b>Pond Count</b>	0.9	There are 9 ponds within a 1km radius not separated by significant barriers
<b>Terrestrial Habitat</b>	0.33	Habitat with poor structure. Open farmland with woodland occupying <25% of the surrounding 250m <sup>2</sup>
<b>Macrophytes</b>	0.4	There was very little floating or emergent vegetation in this pond, cover was estimated to be 10%
<b>HSI Score</b>	<b>0.37 - Poor</b>	



**Pond 3**

This is now dry and the area is now a well mown garden of amenity grassland.



**Figure 4.22. Area where pond 3 used to be**

**Pond 4**

This is a large garden pond with ornamental planting. It is surrounded by trees and amenity grassland. The water around the banks is deep.



**Figure 4.23. Pond 4**





**Table 4.3. HSI score and justification for Pond 4**  
**Pond 4 Grid reference: SJ42051248**

<b>Geographic Location</b>	1	Zone A
<b>Pond Area</b>	0.985	The pond is approximately 780m <sup>2</sup>
<b>Permanence</b>	0.9	Never dries
<b>Water Quality</b>	0.67	Moderate water quality
<b>Shade</b>	0.2	There was 100% shading of the area within 1m of the perimeter
<b>Waterfowl</b>	1	No evidence of waterfowl impact
<b>Fish</b>	0.67	No evidence of fish but local conditions suggest they may be present
<b>Pond Count</b>	0.975	There are 11 ponds within a 1km radius not separated by significant barriers
<b>Terrestrial Habitat</b>	0.33	Habitat with poor structure. Open farmland with woodland occupying <25% of 250m <sup>2</sup>
<b>Macrophytes</b>	0.9	There was 90% floating or emergent vegetation cover in this pond
<b>HSI Score</b>	<b>0.69</b>	<b>- Average</b>

## 4.7 Invasive Species

### 4.7.1 Records

Records of invasive species within 2km include Japanese knotweed (*Fallopia japonica*) in 2019 1.2km north of site, and Himalayan balsam (*Impatiens glandulifera*) in 2015, 1.7km northeast of site.

Invasive species data was provided to the NBN Atlas by SEDN. Unless stated otherwise, all records are provided to the NBN Atlas under licences CC-BY or OGL.

### 4.7.2 Field Observations

No evidence of invasive species was seen on or around the site.



## 5 Description of Proposed Development

The current plans are for extensions to the ground floor and upper floor of the residential property. The access is not subject to change by this development.



**Figure 5.1. Proposed plans**



## **6 Impacts, Enhancements and Mitigation**

### **6.1 Nearby Features of Importance**

Figure 4.1 shows that the site is not within 1km of any designated areas and as such no negative impact is likely and no mitigation required.

### **6.2 Habitats on Site**

As the site is not comprised of any habitats of principal importance listed in Section 41 of the NERC Act (2006), mitigation will be delivered at a species level.

### **6.3 Bats**

#### **6.3.1 Impacts**

Evidence of bats was found in one location in the loft space. The droppings are localised but not in quantities indicative of a maternity roost. This evidence is directly under a potential roost point near the ridge of the roof. Activity surveys were therefore conducted in line with best practice guidance, but no roosting was seen.

#### **6.3.2 Mitigation**

Although no bats were recorded roosting in the house, this does not preclude future use of the building as a transitional roost by bats. A method statement is to be followed to minimise the risk to any bats that may start roosting in the house.

#### **Working Method Statement**

1. A suitably licensed ecologist will be employed as an Ecological Clerk of Works (ECoW) to oversee works in areas sensitive to bats and provide expert advice
2. The ECoW will provide a toolbox talk on site. The developer and the contractors will be made aware that there is a possibility that bats may be found during works, and will be advised to work in a way to ensure bats are not harmed during work in areas sensitive to bats. They will be provided with a simple emergency procedure to follow if bats are found at any stage of the work on site. It will be ensured that the method statement is retained on site at all times.
3. The ECoW will be present on site when work is being conducted in the area around the droppings.
4. If a bat is found when the ecologist is not present, work will stop immediately and the ecologist contacted for advice.
5. The bat can only be handled by the licenced ecologist or authorised person unless it is in immediate danger. The bat must be carefully placed in a well-ventilated lidded box with a small container (i.e. a plastic bottle lid) with water in it. The container must be kept in a quiet and safe place.
6. Care should be taken to avoid rousing the bat whilst transferring to a suitable location, such as a suitable roost box or alternative roost space that provides a safe, quiet environment with a stable cool temperature and relatively high humidity.
7. If the bat is underweight or injured it will be cared for by an experienced bat carer until such time that it is strong enough to be released into a suitable alternative replacement roost on site.



### 6.3.3 Enhancements

It is recommended that permanent provision be made for roosting opportunities for bats with the inclusion of an integral bat box in the new extension. This will be erected at a height of 3-4 m and in a southerly, westerly or easterly facing direction.

#### Enclosed Bat Box (B and C)

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work



Bat Box B



Bat Box C

Eco Habitats for Bats	Sizes (mm)	Durability
Bat Box Type A	215 x 65	F2 S2 – Fully Frost Resistant
Bat Box Type B	215 x 215 or 215 x 290	F2 S2 – Fully Frost Resistant

**Figure 6.1. Example integral bat box**

### Lighting

Lighting needs to be designed to have minimal impact on bats and their commuting and foraging areas. This results in the recommended use of downlights and the horizontal spread of lighting to be kept to a minimum.

Where it is not possible to reduce the horizontal spread of light, a 2700°K to 3000°K LED light bulb is recommended, which will provide a warm white light. This range has the least impact on bats and invertebrates.

1. A lighting scheme will be drawn up in line with ILP and BCT Guidance Note 08/18.
2. All newly proposed external lighting will be directed away from any vegetated boundary features to retain dark corridors for commuting bats.
3. There will be no direct illumination of any enhancement features erected for bats.
4. All domestic lighting will be below 10 lux, orientated towards the ground and controlled by PIR (Passive Infra-red), set on a short timer.



**Figure 6.2. Example external down light design**

### 6.3.4 Monitoring

Failing boxes or enhancements will be replaced at the cost of the developer if deterioration or damage is noted within five years post-development.



## 6.4 Other Mammals

No evidence of non-bat mammals was found on site so no negative impact is expected.

## 6.5 Birds

### 6.5.1 Impacts

Work at this site will include the extension and removal of the roof which could affect nesting birds if conducted during the nesting season.

### 6.5.2 Mitigation and Enhancements

1. Works on the building will commence outside of the bird nesting season, which is March to August inclusive. If this is not possible, a suitably experienced ecologist will conduct a check within the 24 hours prior to work commencement to ensure no nesting birds will be affected.
2. Should a nesting bird be found, a 4m buffer will be left around the nest, and no further disturbance conducted until the young have fledged.
3. Once work has commenced on the building and it is confirmed that there are no nesting birds present, the building will be sealed to prevent birds gaining access during works and potentially causing further delay.
4. It is recommended that a range of boxes are erected around the site to provide an enhancement for passerine birds, and a selection of the following would be appropriate.



Figure 6.3. Bird boxes

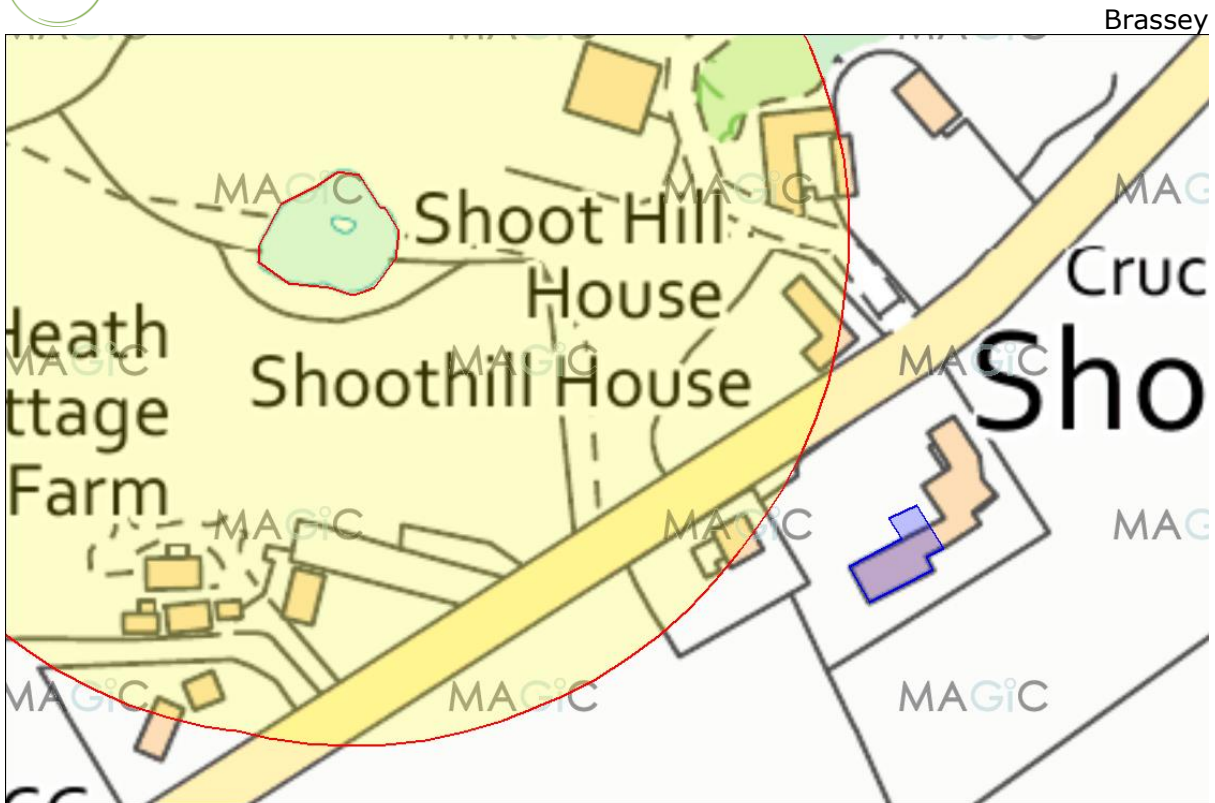
### 6.5.3 Monitoring

Failing boxes or enhancements will be replaced at the cost of the developer if deterioration or damage is noted within five years post-development.

## 6.6 Amphibians

### 6.6.1 Impacts

The rapid risk assessment tool from Natural England has been used to assess the potential impact from the development. The area of the site that requires groundworks is 0.004ha.



Map produced by MAGIC on 8 November 2021.  
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**Figure 6.4. 100m buffer around pond 2 with site in blue**

**Table 6.1. Rapid Risk Assessment tool results**

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.005
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.005
Rapid risk assessment result:	<b>GREEN: OFFENCE HIGHLY UNLIKELY</b>	

The site is of negligible value to newts in their terrestrial phase and the nearest pond is over 100m from the site. This pond scored 0.37 – Poor so is considered unlikely to support newts. The rapid risk assessment shows that an offence is highly unlikely from the development as proposed provided the risk to individual newts is negated. This can be achieved by following a simple method statement.



## 6.6.2 Mitigation and Enhancements

The residential development would lead to a net loss of habitat. This has been taken into consideration at the planning stage and work will follow a strict method statement outlining reasonable precautions for securing the safety of individual newts.

### Working Method Statement

#### Pre-Construction

1. No vegetation will be allowed to grow in the area of the proposed extension, and no storage of logs or stone will be in this area. This will ensure a very low potential for newts to cross the land and reduce the potential for the terrestrial features to improve.

#### Site Setup

2. All cabins and equipment will be located on firm compacted ground, preferably a stone or concrete base.
3. Contractors are advised not to handle newts at any time.

#### Construction Phase

4. The site foreman will be responsible for ensuring all contractors are aware of the potential to find newts, and that they are familiar with the appearance of newts. If in doubt the ecologist will be contacted.
5. Contractors are advised to avoid handling newts at any time.
6. Stored subsoil must not be tipped onto any tall vegetation.
7. All groundwork will be conducted during daylight hours as newts are least likely to move during this time.
8. Trenches will be dug and filled in on the day created or will be covered over with close-fitting boards at the end of each working day.
9. If it is not possible to cover the trench, a ramp will be placed from the edge of the trench to the base to allow newts and small mammals to escape.
10. Open or covered trenches will be checked the following morning. This is particularly important when newts are most active, between March and November.
11. If a newt is found, work will stop immediately and the ecologist contacted for advice.
12. Any heavy machinery will be stored on an area of hardstanding to avoid refugia being created.
13. Stored material will be raised on pallets to reduce the potential they might act as a temporary resting place. This reduces the potential for damage or destruction of individual newts.
14. All waste will be placed straight into skips to reduce the potential of creating refugia.
15. Great crested newts will not be handled or moved without express permission from Natural England as this would constitute an offence.

## 6.7 Invasive Species

No evidence of invasive species was found on site, so no negative impact is expected.



## **7 Concluding Remarks**

The survey has focussed on the potential habitats or protected species to be damaged or destroyed as part of this development.

Evidence of bats was found in the loft, directly under a potential roost access point on the ridge of the roof. Phase 2 surveys for bats were conducted in 2022 and no bats were recorded roosting in the house. Work will be done under a strict method statement. It is recommended that the site is enhanced with bat boxes.

Potential habitat for birds was found under the eaves but no evidence was found. The work on the building must be done outside of the bird nesting season which is March to August inclusive. It is also recommended that the site is enhanced with bird boxes.

Pond 2 is the nearest extant pond and scored 0.37 – Poor on the HSI assessment. This is over 100m from the site and the site itself is of negligible value to newts. It is considered highly unlikely that an offence will be committed. No further surveys for newts are needed. A method statement must be followed to further minimise the risk to individual newts.

No evidence of non-bat mammals or invasive species was found.

The method statements provided in sections 6.3.2, 6.5.2 and 6.6.2 of this report will be followed and works will be done at a suitable time of year. Other than those listed above, there are no ecological constraints to the development as currently proposed.





## Appendix A – Surveyor Details

**Table A.1. Details of surveyors’ experience and licences held**

Name	Membership of associations/ experience	Licenses
Chloe Sheil MZool (Conservation)	Chloe has a master’s degree in Zoology with Conservation from Bangor University. She has 4 years’ experience assisting with surveys.	Listed as an accredited agent on Ben Jones’ licence: NRW bat licence – S088669-2 NRW newt licence – S087992-2
Ben Jones BSc(hons) MSc	Senior Consultant Ben has a degree in Marine and Freshwater biology and a Master’s degree in “Managing the Environment”. He has 7 years’ experience conducting environmental appraisals and phase 2 surveys for bats and newts in England and Wales.	Holder of survey licenses for bats and newts in England and Wales.  <u>England:</u> Bats - 2017-29112-CLS-CLS GCN - 2016-25209-CLS-CLS <u>Wales:</u> Bats – S088669-2 GCN – S091242-1
Philip Playford BSc(hons) MSc MCIEEM	Phil has been assisting with surveys throughout 2021 and 2022	England Bats – 2020-44658-CLS-CLS
Sam Watts	Sam has been assisting with surveys and appraisals throughout 2021 and 2022	



## Appendix B – Methodology

### Desk Study

**Table B.1. Data sources**

Organisation/Resource	Information Assessed
Freely available online species datasets (NBN Atlas)	Protected/UK BAP Species records (2km)
MAGIC website	International statutory designations (1km) <ul style="list-style-type: none"> <li>• Special Protection areas (SPA)</li> <li>• Special Areas of Conservation (SAC)</li> <li>• RAMSAR sites</li> </ul> National statutory designations (1km) <ul style="list-style-type: none"> <li>• Sites of Special Scientific Interest (SSSI)</li> <li>• National Nature Reserves (NNR)</li> </ul> EPS Licenses for protected species (2km)

The National Biodiversity Network (NBN) Atlas was checked to identify the protected species that have formally been recorded in the area. This was considered proportionate to the size of the development, as the Shropshire Environmental Data Network (SEDN) provides most of its records to the NBN.

As the development is a small-scale householder application a full data search is not required, a search was conducted on NBN for commercially available records.

A search on Multi Agency Geographic Information for the Countryside (Magic Maps) determined nearby designated areas. The map is presented in Section 4.1.

### Field Survey

An assessment of habitats was conducted broadly following the JNCC Handbook for Phase 1 Surveys 2010.

The level of survey is aimed to identify field signs of or habitats with the potential to support protected species and therefore assist in the determination for detailed phase 2 surveys.

Determination of Ecological Value is based on the general criteria provided by IEEM (IEEM 2006).

**Table B.2. Criteria of ecological values**

Ecological Value	Description and Examples
High	Habitats or features that have high importance for nature conservation, such as statutory designated nature conservation sites of international or national importance or sites maintaining viable populations of species of international or national importance (e.g. Red Data Book species; European protected species).
Medium	Sites designated at a county or district level, e.g. Local Wildlife Site (LWS), ancient woodland site, ecologically 'important' hedgerows or ecological features that are notable within the context of a region, county or district (e.g. a viable area of a Priority Habitat on the county BAP or a site that supports a viable population of a county BAP species).
Low	Sites of nature conservation value within the context of a parish or neighbourhood, low-grade common habitats, such as arable fields and improved grasslands and sites supporting common, widespread species.



## Species Surveys

### Bats

Methodology used is in accordance with recommendations by BCT, Bat Surveys for Professional Ecologists: Good Practice Guidelines 3<sup>rd</sup> edition, Collins (2016).

Features on site were assessed for potential for bat roosts, foraging and commuting.

An external assessment of all structures on site was undertaken to determine potential roost features (PRF) The potential suitability of the structures assessed was assigned a rating of low to high in accordance with table 4.1 of Bat Surveys for Professional Ecologists: Good Practice Guidelines 3<sup>rd</sup> edition, Collins (2016).

An internal assessment of all structures was undertaken by a suitably licensed surveyor for evidence of roosting bats such as droppings, feeding remains and staining.

Daytime surveys were conducted with the aid of a strong torch and a pair of Pentax Papilio 8.5x21 close focus binoculars. Bat species may leave little evidence of their presence.

Evidence for the presence of bats includes:

- Holes, cracks and rot holes used as roosts, marked by streaks of urine and faeces.
- Smoothed, darkened edges where bats have rubbed and left natural body oils when entering and exiting a space.
- Faeces under a roof access point, a well-used feeding point or a resting spot.
- Feeding signs such as discarded insect wings under a feeding point.
- Lack of cobwebs around eaves, roof spaces, beams or ceilings where routes are kept clear by bats or presence of droppings in a cobweb.
- Presence of roosting or dead bats in or behind any object.

Phase 2 bat activity surveys were conducted to reinforce the findings using frequency division bat detectors (Anabat Walkabout, Wildlife Acoustics Echo Meter Touch 2 Pro).

Surveys were conducted when the weather conditions were suitable for bat activity, i.e. when the ambient temperature exceeded 10°C at sunset and when there was little or no rain. Dusk surveys were begun approximately 15mins prior to sunset and continued for 90-120mins following sunset depending on visibility and site conditions. Dawn surveys were begun approximately 90-120mins before sunrise, depending on the species expected, to 15 minutes after sunrise. Dawn surveys were only conducted if the temperature at the previous sunset was over 10°C.

**Table B.3. Windspeed scale**

Wind Force	Description	Speed mph (kph)	Specifications
0	<b>Calm</b>	<1 (<1.6)	Smoke rises vertically
1	<b>Light Air</b>	1-3 (1-5)	Direction shown by smoke drift but not by wind vanes
2	<b>Light Breeze</b>	4-7 (6.5-11)	Wind felt on face; leaves rustle; wind vane moved by wind
3	<b>Gentle Breeze</b>	8-12 (12-19)	Leaves and small twigs in constant motion; light flags extended



Activity surveys are conducted to establish the presence of bats within a structure, what species they are, approximately how many are present, and if possible, where they are exiting a roost.

Bats were identified from the characteristic echolocation calls using appropriate computer sonogram analysis software.

### **Birds**

Searching for evidence of nesting birds, including barn owls, involved looking for:

- Presence of nests
- Collections of droppings and/or feathers
- Highly distinctive droppings or splats under roosting points.
- Presence of owl pellets/feathers
- Listening for bird song
- Recording bird activity

### **Amphibians and Reptiles**

The assessment of aquatic habitat is based on the Habitat Suitability Index (HSI) and is applied according to guidance set out by the Oldham 2000, superseded by ARG in 2010, ARG UK Advice note 5. The HSI is a quantitative method of assessing the potential quality of a body of water in terms of its ability to sustain a population of great crested newts.

The terrestrial habitats at the application site were surveyed and assessed for their suitability and potential value for the support of GCN. The general topography, ground conditions and presence or absence of vegetation were recorded. A refugia search was conducted for amphibians and reptiles by looking under any logs, large stones and other debris.



## Appendix C – Policy

The following areas of policy and legislation are of relevance to ecology and provide context to the surveys conducted. Findings presented in this report are in line with the following:

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 – as listed in:

- Schedule 2. European protected species of animals
- Schedule 5. European protected species of plants

The Wildlife and Countryside Act (1981) – as listed in:

- Schedule 1. Birds protected by special penalties at all times
- Schedule 5. Protected animals
- Schedule 8. Protected plants

Countryside and Rights of Way Act (2000)

The Protection of Badgers Act (1992)

Natural Environment and Rurally Communities (NERC) Act (2006)

National Planning Policy Framework (2018)

Policy 15 – Conserving and Enhancing the Natural Environment

Biodiversity 2020 – A strategy for England’s wildlife and ecosystem services (2011)

ODPM Circular 06/2005: Biodiversity and Geological Conservation

Shropshire Core Strategy (2010): Policy CS17 – Environmental Networks

### Bats

All bat species are protected under The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 which implements the EC Directive 92/43/EEC in the United Kingdom. It is an offence, with certain exceptions, to:

- Deliberately capture or kill any wild animal of a European Protected Species.
- Deliberately disturb any such animal.
- Damage or destroy a breeding site or resting place of such a wild animal.
- Keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of a European Protected Species, or any part of, or anything derived from such a wild animal or plant.

A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months or to an unlimited fine or to both.

Seven bat species are on the UK Biodiversity Action Plan and are listed as Species of Principal Importance under the provisions of the Natural Environment and Rural Communities (NERC) Act 2006. The National Planning Policy Framework (NPPF) states that 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*”.

To allow a development that might result in an offence, a derogation licence can be sought via the implementation of a European Protected Species Licence. This is provided by Natural England.



Work can be conducted under a derogation licence from Natural England providing suitable compensation and mitigation is provided and the “three tests” can be met. These are:

Regulation 55(2)(e) states: a licence can be granted for the purposes of “preserving public health or public safety” or other imperative reason of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.

Regulation 55(9)(a) States: the appropriate authority (Natural England) shall not grant a licence unless they are satisfied “that there is no satisfactory alternative”

Regulation 55(9)(b) states that the appropriate authority shall not grant a licence unless they are satisfied “that the action licensed will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in its natural range.”

## **Badgers**

Badgers and their setts are specifically protected under the Protection of Badgers Act 1992. The act was primarily brought into force to prevent the deliberate injury to or death of badgers. Some aspects of the act affect developers. It is important that developers are aware of any badger setts located on the land they intend to develop.

All personnel working on sites where there are badgers should be aware of the Protection of Badgers Act 1992. Under this legislation it is an offence to:

- Damage a badger sett or any part of it.
- Destroy a badger sett.
- Obstruct access to, or any entrance of a badger sett.
- Causing a dog to enter a badger sett.
- Disturbing a badger when it is occupying a badger sett.

## **Birds**

Under Section 1 of the Wildlife and Countryside Act 1981 (as amended), birds, their nests and young are all protected from damage, particularly during the breeding season. The Act allows for fines or prison sentences for every bird, egg or nest destroyed. It makes it an offence to:

- Intentionally kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird whilst it is in use or being built.
- Take damage or destroy the egg of any wild bird.
- To have in one’s possession or control any wild bird, dead or alive or egg or any part of a wild bird or egg.

Some bird species are included in the UK and local BAPS and are recognised as species of principal importance for nature conservation in accordance with section 41 of the NERC Act 2006. Such species and their habitats receive protection through the provisions of the NPPF.



## Amphibians and Reptiles

All species of amphibians receive a measure of protection under legislation.

The Wildlife and Countryside Act 1981 has been amended by the Countryside and Rights of Way Act (CRoW) 2000. This applies to England and Wales only. The key relevant fact is:

- Section 9(4) is amended to create an additional offence of reckless damage to, destruction of, or obstruction of access to, any structure or place used for shelter or protection; and reckless disturbance while occupying such a structure or place.

### Great Crested Newts

Great crested newts are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 which implements the EC Directive 92/43/EEC in the United Kingdom. It is an offence, with certain exceptions, to:

- Deliberately capture or kill any wild animal of a European Protected Species.
- Deliberately disturb any such animal.
- Deliberately take or destroy eggs of any such wild animal.
- Damage or destroy a breeding site or resting place of such a wild animal.
- Keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of a European Protected Species, or any part of, or anything derived from such a wild animal or plant.

Great crested newts are listed as a priority species on the UK BAP and Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The National Planning Policy Framework (NPPF) states that 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”*.

A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months or to an unlimited fine, or to both.

Work can be conducted under derogation licence from Natural England providing suitable compensation and mitigation is provided and the “three tests” can be met. These are:

- Regulation 55(2)(e) states: a licence can be granted for the purposes of “preserving public health or public safety” or other imperative reason of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.
- Regulation 55(9)(a) States: the appropriate authority (Natural England) shall not grant a licence unless they are satisfied “that there is no satisfactory alternative”
- Regulation 55(9)(b) states that the appropriate authority shall not grant a licence unless they are satisfied “that the action licensed will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in its natural range.”



## Appendix D – Bat Survey Data

**Table D.1. Survey conditions**

Date	Time Start-End (Sunset/Sunrise)	Structure	Equipment Used	Weather
07/10/2021	12:15	House and garden	Camera and strong torch	Dry, sunshine, clear sky
Comments	One surveyor used: Chloe Sheil			
11/05/2022	03:15-05:25 (05:22)	House	Wildlife Acoustics Echometer Touch 2 Pro, LED torch	11°C, F2 wind, no rain, 70% cloud cover
Comments	Two surveyors used: C Sheil and P Playford			
25/05/2022	03:30-05:05 (05:01)	House	Wildlife Acoustics Echometer Touch 2 Pro, LED torch	11°C, F0-1 wind, no rain, overcast
Comments	Two surveyors used: C Sheil and B Jones			
09/06/2022	21:15-23:05 (21:32)	House	Wildlife Acoustics Echometer Touch 2 Pro, Anabat Walkabout, LED torch	15-14°C, F2 wind, no rain, 10% cloud cover
Comments	Two surveyors used: C Sheil and S Watts			

**Table D.2. Survey results table**

Date	Time Start – End	Species and Numbers	Roost Type	Structure	Roost Location	Access Points
07/10/2021	12:15	-	-	-	-	-
Notes:	Evidence of bats was found in the loft space. A gap in the flashing on the southern aspect provided a potential access point unto the loft. Under this hole, in the loft was a gap in the cobwebs. The remaining cobwebs were full of bat droppings.					
11/05/2022	03:15-05:25	-	-	-	-	-
Notes:	No bats were seen to re-enter roosts in the house. Bats were recorded from the start of the survey until 05:15. Common and soprano pipistrelles were recorded foraging up and down the western hedgerow throughout the survey. Noctules were recorded but not seen. Brown long-eared bats were seen flying from south to the north across the site, but no calls were recorded.					
25/05/2022	03:30-05:05	-	-	-	-	-
Notes:	No bats were seen to re-enter roosts in the house. Activity recorded included the foraging of common pipistrelles and soprano pipistrelles up and down the western hedgerow. This started at 03:46 and continued until 04:30. Noctules were recorded but not seen. No bat activity was seen or recorded to the east of the house.					
09/06/2022	21:15-23:05	-	-	-	-	-
Notes:	No bats were seen to emerge from roosts in the house. The first bat recorded was a noctule at 21:43. This was heard but not seen. Common pipistrelles and soprano pipistrelles were recorded foraging up and down the western hedgerow from 22:16 onwards. Noctules were recorded but not seen.					





**Figure D.1. Surveyor locations**



Brassey



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Existing Site Plan 1:500

Ordn  
Pr

**Figure D.2. Survey results**

Icon	Description
	Droppings Location
	Flight Paths



## Appendix E - Bibliography

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