

**Preliminary ecological appraisal  
(Internal /External Bat Survey)  
Buildings at 18a-20 high street, Botley**



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Bat class license: Survey, level 2.

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## **Contents**

|                                                            |               |
|------------------------------------------------------------|---------------|
| <b>1.0 Introduction</b>                                    | <b>3</b>      |
| 1.1 Background                                             | 3             |
| 1.2 Site Location                                          | 6             |
| 1.3 General Site Description and Status                    | 8             |
| 1.3.1 Immediate Surrounding Areas /Wider Landscape Context | 34            |
| 1.4 Bat Ecology (a Summary)                                | 37            |
| 1.5 Description of Works                                   | 38            |
| 1.6 Existing relevant bat records and interpretation       | 39            |
| <br><b>2.0 Methodology</b>                                 | <br><b>41</b> |
| 2.1 Personnel                                              | 41            |
| 2.2 Visual External Assessment                             | 41            |
| 2.3 Visual Internal Assessment                             | 41            |
| <br><b>3.0 Results</b>                                     | <br><b>43</b> |
| 3.1 External/Internal Visual Assessment                    | 43            |
| 3.2 Birds                                                  | 45            |
| <br><b>4.0 Conclusion</b>                                  | <br><b>47</b> |
| <b>5.0 Mitigation/ Compensation</b>                        | <b>47</b>     |
| <b>6.0 References</b>                                      | <b>48</b>     |

## 1.0. Introduction

Two barns were subject to a pre- determinative bat survey at **Land on the east of School Lane, Wadshelf, Chesterfield, S42 7BY**. This constitutes a survey in relation to the potential for presence of bat species and roost sites, in relation to a planning proposal for demolition and replacement with new build residential

The brief of the survey was as follows;

- An External/Internal evaluation of the buildings for utilization signs by bat species.
- To determine whether any buildings and trees within the site had potential for use by bats for roosting or as a place of shelter, with consequent implication for development work with respect to Schedule 5 of the *Wildlife and Countryside Act 1981 and the conservation (Natural Habitats &c.) Regulations (and subsequent amendments)*.
- To determine the presence of any roosts within the site.
- To determine any use of the buildings concerned by bird species
- To make an overall assessment of the value of the site as foraging, feeding and commuting areas.
- To make recommendations for the development work to take place including any mitigation/ compensation required.

## 1.1. Background

### Bats and the Law

Prior to August 2007, all bat species in the UK were fully protected under the *Wildlife and Countryside Act 1981* (as amended) through an inclusion in Schedule 5. The amendment of the *Conservation (Natural Habitats) Regulations 1994*, in August 2007 now is the regulatory protection mechanism. In addition there are obligations within the Conservation of Species and Habitat Regulations (2017) and National Planning Policy Framework (2019) which replaced the former Planning Policy Statement 9 (PPS 9).

In England, Scotland, Wales and Ireland all bat species are fully protected by the Conservation (Natural Habitats &c.) Regulations, which defines 'European protected species of animals' (EPS). This gives protection to bats and their roosts.

The Regulations have slightly different amendments in the different countries. Under the regulations it is an offence to:

- a) Deliberately or recklessly to capture, injure, or kill a EPS.
- b) Deliberately or recklessly –
  - i. To harass a wild animal or group of wild animals of a EPS.
  - ii. To disturb while it is occupying a place of shelter (roosts).
  - iii. To disturb while it is rearing its young or caring for its young.
  - iv. To obstruct access to a breeding site or resting place, or otherwise deny the animal use of that site or resting place.
  - v. To disturb a EPS in a manner that is, or circumstances which are likely to significantly affect the local distribution or abundance of the species.
  - vi. To disturb a EPS in a manner that is, or circumstances which are likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for young.

In this interpretation, a bat roost is *“any structure or place which any bat uses for shelter or protection”*. As bats tend to reuse the same roosts, legal opinion is that the roost is protected whether or not the bats are present at the time.

### **Planning and Development**

All British bat species and their roosts are protected under the Wildlife and Countryside Act 1981, through inclusion on Schedule 5. They are also protected under the Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2.

The Act and Regulations include provisions making it illegal to:

- ☐ Intentionally or deliberately kill, injure or capture bats.
- ☐ Deliberately disturb bats.
- ☐ Damage, destroy or obstruct access to a roost.

Local Planning Authorities consult the Government's guidance notes, National Planning Policy Framework (2021) and the Conservation of Species Habitat Regulations (2017) in England, and equivalents in Scotland and Wales, before making a planning decision where there may be protected species on a site.

The presence of a protected species should be a material consideration when considering a development proposal which, if carried out, would be likely to result in harm to the species or its habitat. If bats use the site, appropriate Statutory Nature Conservation Organization (Natural England, Scottish Natural Heritage or Natural Resources Wales) must be consulted before any work is carried out. Where necessary, a bat expert should visit and assess the site.

If planning permission is being sought from the local authority, any observations of bats should be reported to them and they can be reminded of their obligations within the National Planning Policy Framework (2021). If a bat roost is present and is affected by a proposed development, licensing will be required from the Statutory Nature Conservation Body, in England this is Natural England.

### **The Legislative Process (England)**

In determining whether or not to grant a license Natural England must apply the requirements of Regulation 535 of the Regulations and, in particular, the three tests set out in sub-paragraphs (2)(e), (9)(a) and (9)(b)6 .

(1) Regulation 53(2)(e) states: a licence can be granted for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment".

(2) Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied "that there is no satisfactory alternative".

(3) Regulation 53(9)(b) states: the appropriate authority shall not grant a licence unless they are satisfied "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range."

In determining applications for licenses under the Regulations Natural England is also aware of and, where appropriate, has regard to the following:-

☐ Planning Policy Statement 9 ☐ Circular 06/05 “Biodiversity and Geological Conservation – Statutory Obligations and their impact within the Planning System”

☐ Circular 2/2002 New Guidance for Local Planning Authorities on European Protected Species and Changes in Licensing Procedures

☐ the EU Guidance Document on the protection of animal species: February 2007, Managing Natura 2000, EU Guidance Document on Hunting under Council Directive 79/409/EEC on the conservation of wild birds (Chapter 3) and The Report of the Article 12 Working Group under the Habitats Committee “Contribution to the interpretation of the strict protection of species (Habitats Directive article 12)”.

Developers need to be aware that:

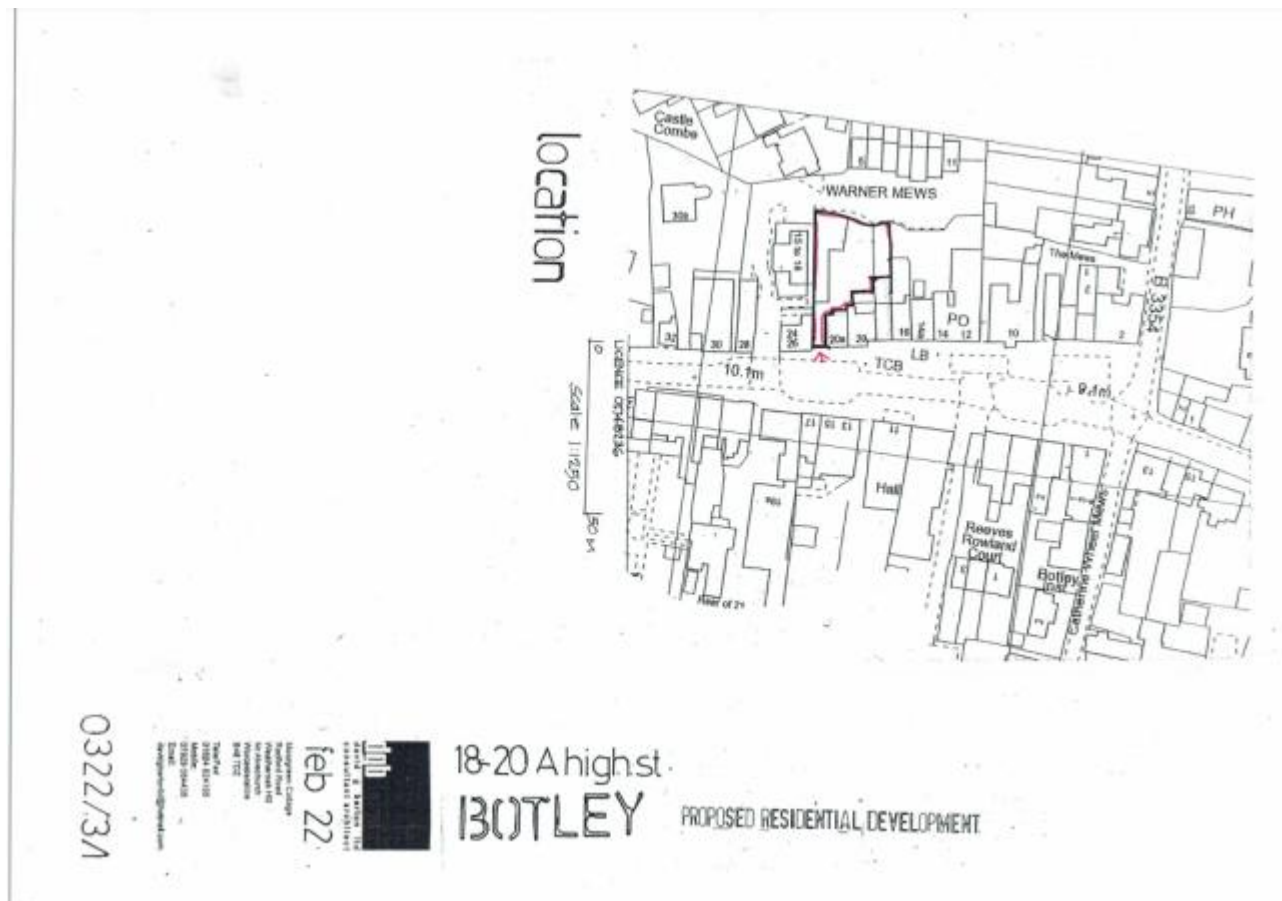
- Assessment of current use, likely effects and mitigation or habitat enhancement should be incorporated into development proposals at an early stage.
- Where changes in land use could affect bats, the implications to bats should be considered and advice sought.
- When considering planning applications, authorities are required to take account of protected species, including all bats, and their habitats.

Bat feeding habitats can be some distance from their roost sites, therefore, bats seen in flight may roost nearby or some miles away. Bats use a range of sites for roosting, including buildings and trees. Signs of roosts, which are visible from the outside, include bats emerging from the roost (timing varies from before sunset to up to about an hour after) and bat droppings on surfaces near emergence points.

## 1.2. Site Location

Land at 18-20A High street, Botley, SO30 2EA

All parts of the site and buildings were available for access. The site is shown below:





### 1.3. General Site Description and Status

The site comprises a number of workshops/garages. These I have labeled as below



B1; Corrugated metal open shed/workshop

B2: Brick built workshop, lit by windows, unlined clay tile roof, former slaughterhouse, small retained loftspace

B3: Former workshop for working on boats, Brick, single skin, corrugated metal unlined roof

B4: recent metal shed, corrugated metal walls and roof.

See images below



Buildings B1-B3



B4



B3



B2



B1











B4



Off site horsechestnut to North







B2 internal and loft











Off site horsechestnut to rear



B3 internal/external images











### **1.3.1. Immediate Surrounding Area and wider Landscape Context in Relation to Bats**

The building is situated in a the settlement of Botley in the dense High Street area, within a Conservation Area. The immediate land-use is retail/residential , with the wooded River Hamble some distance to the South and East likely to provide the foraging and commuting areas for bats in the immediate landscape.



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A Natural England 'Magic' data search (shown below) reveals that the site lies within a Nitrate Vulnerable Zone for surface water though and within a SSSI impact zone, this should be

considered in relation to any construction operations. The nearest site are Solent and Southampton Water SPA, and the Upeer Hamble Estuary and Woods SSSI, 400m SE

*(Abbreviations: SSSI Special Scientific Interest, SAC special Area for Conservation, LNR Local Nature Reserve)*

## **1.4. Bat Ecology (a Summary)**

### **Where do bats build roosts?**

Different species of bat prefer different places; some creep into tiny spaces, cracks and crevices. Only occasionally do they hang free or are easily visible. Outside they may roost:

- Under weather boarding or hanging tiles
- Above soffits and behind fascia and barrage boarding
- Between window frame and wall brickwork
- In gaps behind cladding tiles or wood
- Between underfelt and boards or tiles
- Inside cavity walls

Inside roof spaces they may roost

- Along the ridge beam
- Around the gable end
- Around the chimney breast

### **Looking for the evidence**

Bats do not make nests or cause structural damage. The most obvious sign of their presence is droppings.

- Bat droppings consist largely of insect remains and crumble easily between your fingers to a powder of semi-shiny fragments.
- Rodent droppings are smooth and plastic, quickly becoming hard. They cannot be crumbled.
- Bat droppings do not present any known health hazards.
- Droppings may not always be readily visible in a loft.
- Large accumulations may reflect use over a number of years rather than large numbers of bats at any one time.

**When do bats use buildings?**

Bats use buildings at any time, but are most often found in houses between May and August.

- Mother bats have only one baby a year, suckling it for several weeks. The mothers gather in maternity roosts to have their young in summer, and this is the time they are most likely to be seen using buildings.
- The bats move away when the young can fly and feed themselves, and have usually left by September.
- Immature individuals, adult males and non-breeding females will occupy a variety of roosts, individually or in small groups, at any time of year.
- Disturbance or the use of chemicals at maternity roosts in houses can have a major impact on bat populations gathered from a wide area.
- Bats do roost in houses in winter, usually individually, but are difficult to see.

**Which bats use buildings?**

All UK species have been recorded in houses, but some very rarely. Pipistrelles and Long-eared bats are the species most usually found.

**Pipistrelle bats**

There are three different species of Pipistrelle; the common Pipistrelle, Soprano Pipistrelle and the rarer Nathusius' Pipistrelle. They sometimes use houses as maternity roosts, choosing confined spaces. These are usually on the outside of buildings, such as under the soffits or behind barge boards or hanging tiles, where the bats can rarely be seen.

**Brown long-eared bats**

This species mostly prefers older houses with large roof spaces. Small clusters may be seen at junctions of roof timbers or under the ridge. It is the bat most frequently seen inside lofts, small numbers may stay longer than the other species.

## 1.5 Description of Works

Demolition of all buildings to be new build residential.

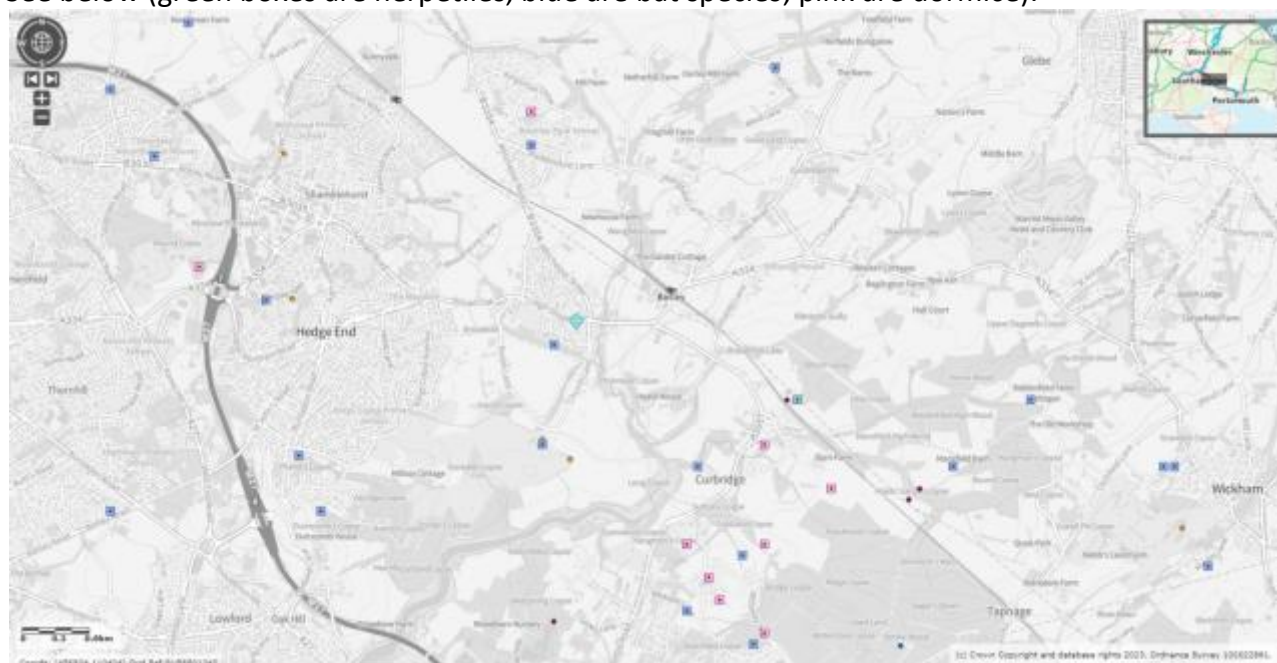
## 1.6 Bat Species Records

In relation to bat species the following were recorded from freely available web-based data (and in places, the authors own records) presented here with the approximate distances of the nearest record. In addition, a number of Ecological survey reports within the area have been interrogated for protected species records. All records are post-2000 unless otherwise stated. In this case records are From Natural England's @MAGIC' site:

| Species (Latin Name)             | Common Name        | Approximate distance of nearest record from the survey site (km) |
|----------------------------------|--------------------|------------------------------------------------------------------|
| <i>Pipistrellus pipistrellus</i> | Common pipistrelle | Within 3 km                                                      |
| <i>Plecotus auritus</i>          | Brown long eared   | Within 1 km                                                      |

## EPSM Search

The nearest granted EPSM licenses are 2km for Great Crested Newt and Common dormouse and -2 km for bat species (Brown long eared bat, Natterers bat, Common and Soprano pipistrelle). See below (green boxes are herpetiles, blue are bat species, pink are dormice).



**Other Selected Species**

| <b>Species (Latin Name)</b> | <b>Common Name</b> | <b>Approximate distance of nearest record from the survey site (km)</b> |
|-----------------------------|--------------------|-------------------------------------------------------------------------|
| <i>Tyto alba</i>            | Barn owl           | Within 5 km                                                             |

**Interpretation of available biological data.**

The data search reveals that there are 4 bat species recorded within 1km radius of the survey site. Records of barn owl, great crested newt and common dormice are not relevant to this site.

## **2.0. Methodology (bats)**

The survey consisted of two elements:

- A day-time visual external assessment of the buildings and their potential in relation to use by bats as roosts.
- A day-time visual internal assessment of the buildings and their potential in relation to use by bats as roosts

### **2.1. Personnel**

The survey was conducted by Dr. Stefan Bodnar, assisted by Dr. Louise Sutherland. Dr. Stefan Bodnar is a full time member of the Chartered Institute of Ecology and Environmental Management, an experienced ecologist with over 37 years experience of bat surveys, working under Natural England class license: Level 2, survey: bats.

### **2.2. Visual External Assessment**

The external building inspection (from the ground using binoculars) focused particularly on roof areas, soffits, areas of wall with cracks and apertures, vents, openings into the building and the overall structure of the buildings including any features such as crevices or cavities that may be suitable for bats to roost in. Evidence of roosting such as droppings or staining around entrances was also recorded. Where appropriate gaps and cavities were checked using an endoscope. The date of site visit was 2<sup>nd</sup> April 2023

Methods of survey used have been based on those outlined in Joint Nature Conservation Committee's Bat Workers Manual (Mitchell-Jones & McLeish, 2004), Bat Surveys for Professional Ecologists (3<sup>rd</sup> Edition), BCT (2016), and English Nature's Bat Mitigation Guidelines (Mitchell-Jones, 2004).

### **2.3. Visual Internal Assessment**

The internal roof spaces were thoroughly checked for the presence of bats. All areas that bats might access were fully surveyed, and suitable features checked with an endoscope, where

appropriate. The dwellings were examined by an experienced, licensed bat worker, Dr Stefan Bodnar. Equipment used included powerful torches, camera, a set of telescopic ladders and binoculars and an endoscope to inspect any potentially suitable crevices or holes. The dwellings were examined for any feeding remains, droppings, staining, worn surfaces and the bats themselves (alive or dead).

### 3.0. Results

The assessment was carried out using the guidance provided within the publication: **Bat Surveys for Professional Ecologists (3<sup>rd</sup> Edition), BCT (2016), which states:**

| Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitability                                                                                                                                                                                                      | Description<br>Roosting habitats                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Commuting and foraging habitats                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Negligible                                                                                                                                                                                                       | Negligible habitat features on site likely to be used by roosting bats.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Negligible habitat features on site likely to be used by commuting or foraging bats.                                                                                                                                                                                                                                                                                                                                                                                                      |
| Low                                                                                                                                                                                                              | <p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions<sup>a</sup> and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation<sup>b</sup>).</p> <p>A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.<sup>c</sup></p> | <p>Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.</p>                                                                                                          |
| Moderate                                                                                                                                                                                                         | A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions <sup>a</sup> and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).                                                                                                                                                                      | <p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.</p>                                                                                                                                                                                    |
| High                                                                                                                                                                                                             | A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions <sup>a</sup> and surrounding habitat.                                                                                                                                                                                                                                                                                                     | <p>Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p> |

<sup>a</sup> For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

<sup>b</sup> Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

<sup>c</sup> This system of categorisation aligns with BS 8596:2015 Surveying for bats in trees and woodland (BSI, 2015).

### 3.1 External and Internal Visual Assessment

The site comprises a number of workshops/garages. These I have labeled as below



B1; Corrugated metal open shed/workshop. Wooden cladding over entrance: Intact.

B2: Brick built workshop, lit by windows, unlined clay tile roof, former slaughterhouse, small retained loftspace. Some larch cladding to front: intact.

B3: Former workshop for working on boats, Brick, single skin, corrugated metal unlined roof

B4: Recent metal shed, corrugated metal walls and roof.

#### **Classification:**

**B1 Negligible bat access potential, Negligible Bat roost potential (BRP).**

**B2: Bat access potential via slipped and dislodged tiles, no evidence in loftspace. Negligible Bat roost potential (BRP). (following inspection)**

**B3 No loftspace, lit internally by rooflights, No evidence of bat access. Negligible Bat roost potential (BRP).**

**B4: Classification: Negligible bat access potential, Negligible Bat roost potential (BRP).**

The interior of both the buildings were fully accessible and surveyed in detail.

The buildings were classified overall as negligible roost potential

### **3.2 Birds and other animals**

B1-B4 have no evidence of current or previous birds' nests. Birds on site included robin and blackbird. No breeding birds current or previous were noted on site, though the vegetation to the East may be suitable for breeding birds in the bird breeding season.

#### **Other species scoping:**

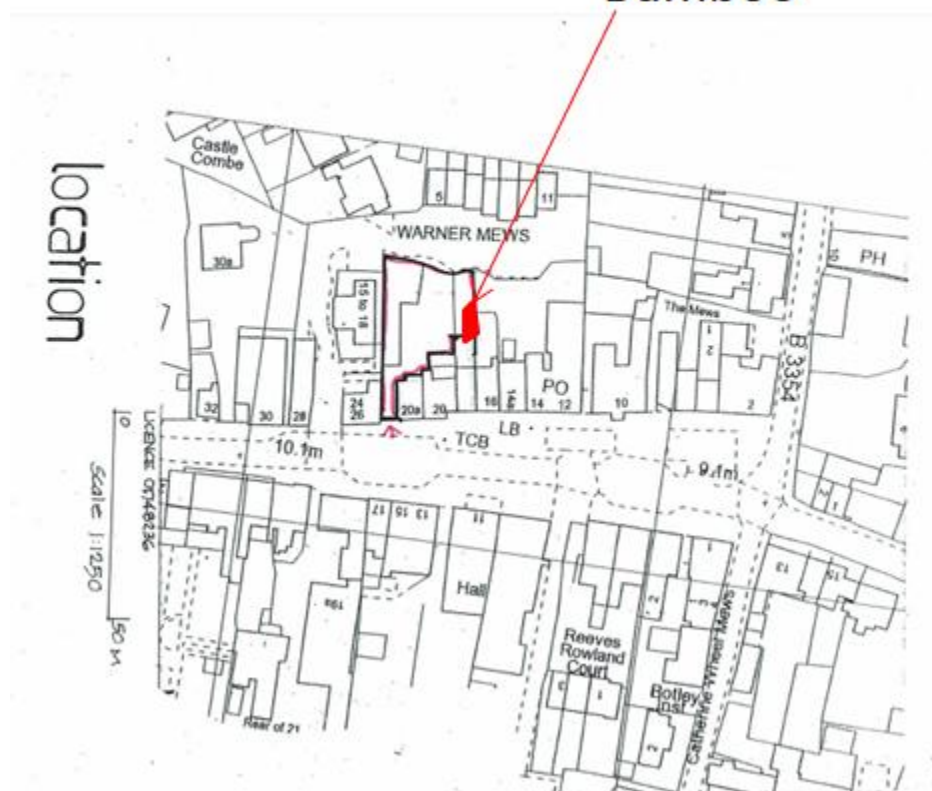
The surrounding area was inspected for evidence of great crested newt or badger. As the development will involve primarily the buildings and hard-standing, this is of low suitability for great crested newts. It can be confirmed, that there are no badger setts within 30m of the buildings in any direction and no signs of presence on site at all.

The rest of the site is hardstanding and planted garden. Species recorded included stinging nettle, broad leaved dock, evening primrose, garden bluebell, grape hyacinth, red deadnettle. Off site is a mature horsechestnut tree to the north.

There is a stand of bamboo *Bambusa sp.* to the East of the plot that will need treatment. See below, images, location.



Bamboo



#### 4.0. Conclusion

- The buildings overall was categorized as high opportunities for access and after inspection, negligible opportunity for roost formation by bats.
- No further surveys to determine the presence of bat roosts will be required.
- There were no signs of great crested newt or badger within the site
- No breeding birds current or previous were noted on site, though the vegetation to the East may be suitable for breeding birds in the bird breeding season.

#### 5.0. Mitigation/Compensation

In relation to the National Planning Framework (2021) there is likely to be a requirement for Mitigation/ Compensation measures for loss of bird nesting opportunity and for bat roost potential.

- A minimum of 2 bird boxes should be affixed to the exterior of the new building(s). House sparrow terraces are recommended, see below:



- A minimum of 2 bat boxes should be affixed to the exterior of the new building(s). The National trust Stourhead bat box is recommended, see below:



## **6.0. References**

Bats in Roofs. A guide for surveyors. English Nature, Peterborough, Mitchell-Jones, A.J. (2004).

Bat Mitigation Guidelines. English Nature, Peterborough, Mitchell-Jones, A.J.& Mcleish, A.P.(Eds)(2004).

Bat workers Manual, 3<sup>rd</sup> Edn. Joint Nature Conservation committee, Peterborough.

Bats and Trees, (2000), Bat Conservation Trust

Bat Survey guidelines (2016), Bat Conservation Trust