



16 North Street, Reading, Berkshire RG1 7DA

Bat Survey Report

January 2019

on behalf of Edgars Ltd

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1 Summary of Study

- An initial bat survey (daytime building inspection and preliminary roost assessment) was undertaken on 10th January 2019 by Jan-Piet Stuursma.
- Mr Stuursma holds a licence from Natural England to survey for bats within all counties of England (WLM-A34-Level 1 2018-37063-CLS-CLS).
- The interior and exterior of the building were surveyed for protected species, bats and evidence of bats in accordance with best practice guidelines published by the Bat Conservation Trust (Collins 2016).
- The building was also assessed for its potential to offer shelter to roosting bats within an undetected roost site.
- No bats or evidence of bats were found.
- The building is considered to have 'negligible' potential to offer shelter to roosting bats.
- There are no predicted impacts on bats.
- There is no evidence of other protected species.
- No further ecological surveys are considered necessary at this stage.
- No significant impacts on bats or their habitats are predicted under The Conservation of Habitats & Species Regulations 2017.
- It is not necessary to consider the 'three tests' of The Conservation of Habitats & Species Regulations 2017 in this instance.
- A European Protected Species Licence is not considered to be necessary for works to proceed.

2 Introduction

2.1 Site Description

16 North Street, referred to as the 'site' for the purposes of this report, is located to the eastern side of North Street, close to the town centre of Reading, Berkshire RG1 7DA. North Street links Great Knollys Street to the north with Weldale Street to the south. The approximate Ordnance Survey grid reference for the site is SU 709 736.

The site comprises an office building of brick and metal construction, with a pitched roof of corrugated asbestos sheeting. The building is located in an urban and largely industrial/commercial area, close to the centre of the town of Reading, and is surrounded on all sides by roads, hard-standing and built development.

2.2 Aims of Study

The aims of this study are to survey the building for bats and/or evidence of bats, and other protected species. The study assesses the overall potential of the building to support roosting bats, and other protected species, and discusses the potential impact of works to the building on bats, protected species and their habitats. Other habitats are also evaluated and assessed for their potential to support protected species.

The report makes recommendations for appropriate mitigation, compensation and enhancement measure and the potential impacts are assessed in accordance with the legal protection afforded to bats under The Conservation of Habitats & Species Regulations 2017. The need for a European Protected Species (Bat) licence is also discussed in light of the impact assessment.

2.3 Bat Ecology

Bats are the only mammals to have developed the ability of true flight. At present, over 1,100 species of bat are recognised worldwide, making bats the second largest mammal group after rodents. As well as flight, bats have evolved a system of navigation and orientation using echolocation which has allowed many species to become nocturnal. There are 18 species of bat that occur within the British Isles, of which 17 are known to breed here. More species occur in the south and west of the country, with species numbers declining towards the north and into Scotland.

All bat species in the UK are nocturnal and feed exclusively on insects (they are insectivorous) which they catch in flight during their night-time activity, using echolocation to locate and home-in on their prey. Bats will roost during the daytime and seek out dark, enclosed and undisturbed places in which to do so, often using a variety of roosting sites within their home range. Different roost sites are used for different purposes (such as mating, giving birth and hibernation) and at different periods of a bat's life cycle.

During the summer, female bats will gather together in a maternity or breeding roost. In the UK, this starts to occur towards the end of May and the females will seek out a warm and undisturbed site in which to give birth. Because maternity roosts require a particular set of environmental attributes (such as location, temperature, orientation and size), breeding bats tend to return to roost and breed in the same locations year after year. Given that bats live a relatively long time (anywhere from 10-20 years), and only give birth to one pup a year, maternity colonies are crucial to the reproduction and survival of the local population and can be very sensitive to environmental change.

Relatively little is known about hibernation roosts, as tracking and locating hibernating bats is very difficult. However, many species (particularly those within the genera *Myotis* and *Rhinolophus*) have been found within underground sites such as caves, mines and cellars, where the temperature remains constant and low throughout the winter allowing the bats to remain in a state of torpor. The spring and autumn are periods of transition and bats can use a number of different locations on a temporary basis, often moving between roosts as environmental conditions change and temperatures fluctuate. In the autumn, bats will mate and it has been shown that male and female bats will gather at particular locations (such as a building, cave or tree) to meet, socialise and mate.

Bats choose to roost in a number of different locations, depending on the species, their activity pattern and the period of their lifecycle. Certain species, such as the pipistrelles, favour crevices and small cavities for roosting and will use features such as cracks, crevices and small rot holes in the boughs and trunks of trees and within certain features of buildings such as boxed eaves, gaps under roof tiles, hanging tiles and soffit boards. Other species favour large, uncluttered roof spaces and lofts within buildings where they can hang up on the underside of the roof and use the interior space for flying prior to emergence. Hollow trees, cellars, caves, barns, churches and cavity walls can also all be used for roosting, given suitable access. Certain species, such as the noctule, favour roosting sites within trees whilst others tend to favour buildings. Roost sites may be used by only a very small number of bats, such as solitary males, or may offer shelter to tens or hundreds of bats within maternity and hibernation roost sites.

The suitability of roosting sites is also highly influenced by the location or context of a tree, building or cave. Roost sites are most often favoured when they are within close proximity to foraging habitats and where those habitats are connected to one another within the landscape by features such as hedgerows, woodlands, rivers or sunken lanes along which bats disperse and 'commute' from place to place. Suitable foraging habitats are any places where insect prey is diverse and abundant such as woodlands, ponds, lakes, rivers, scrub, hedgerows and unimproved grassland or pasture. Thus, the ecological context of a site is very important for determining if bats may be present within a roost and the potential for a roost to be present tends to be much higher within rural or village locations.

3 Methodology

An initial bat survey (daytime building inspection and preliminary roost assessment) and protected species survey were undertaken on 10th January 2019 by Jan-Piet Stuursma. Mr Stuursma holds a licence from Natural England to survey for bats within all counties of England (WLM-A34-Level 1 2018-37063-CLS-CLS).

A detailed internal and external survey of the building (16 North Street, Reading) was undertaken using a 1 million candle-power torch in order to look for bats and/or evidence of bats and to assess the potential of the building to support roosting bats. Internal rooms, loft spaces and external elevations were inspected for evidence of bats including, bat droppings, urine stains, feeding remains (such as moth wings) and characteristic fur staining around access points.

The bat survey was undertaken according to best practice guidelines published by the Bat Conservation Trust (Collins 2016) and the *Bat Workers Manual* (JNCC 2010).

The study also takes into account the nature of the building and the ecological context of the site, including the following factors which may increase the likelihood of roosting bats being present (Collins 2016):

- Age of the building (pre-20th Century or early 20th Century construction)
- Nature of construction; traditional brick, stone or timber construction
- Large and complicated roof void with unobstructed flying spaces
- Large (>20 cm) roof timbers with mortise joints, cracks and holes
- Entrances and gaps for bats to fly and crawl through
- Poorly maintained fabric providing ready access points for bats into roofs, walls; but at the same time not being too draughty and cool
- Roof warmed by the sun, south-facing roofs in particular
- Weatherboarding and/or hanging tiles with gaps
- Undisturbed roof voids
- Buildings and built structures in proximity to each other providing a variety of roosting opportunities throughout the year
- Buildings or built structures close to good foraging habitat, in particular mature trees, parkland, woodland or wetland, especially in a rural setting

The following criteria are used as guidelines for assessing the potential suitability of buildings for bats (Collins 2016):

Table 1. Criteria for the assessment of buildings and trees for roosting bats (Collins 2016).

Suitability	Description of Roosting Habitats
Negligible	Negligible habitat features likely to be used by roosting bats.
Low	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 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). A tree of sufficient size and age to contain potential roost features (PRFs) but with none seen from the ground or features seen with only very limited roosting potential.
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 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 the presence is confirmed).
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 and surrounding habitats.

4 Results & Discussion

4.1 Description of Building

16 North Street is constructed from brick, with a shallow pitched roof of corrugated asbestos sheeting (see Appendix 1 for photographs). The building is currently used as offices.

The upper levels of the side (north and south) and rear (east) walls are constructed from corrugated metal sheeting, held vertically. There is a glazed porch to the western side of the building, above which there is a façade of decorative clay hanging tiles.

There is a low loft space within the roof, measuring approximately 50cm from floor to ridge. The underside of the roof has been sprayed with foam insulation, creating a continuous lining to the roof, under which there is a suspended ceiling (with associated lights and wiring).

The building is in a relatively good repair, with solid and intact brickwork, solid metal cladding and intact hanging tiles. The hanging tiles are of a modern (machine) construction and are flat and tight-fitting, with no gaps or crevices noted under the tiles.

The habitats surrounding the site are considered to be very poor for bats and bat activity, comprising roads, hard-standing and built development. Habitats within the wider environs are limited to gardens and amenity parkland, and there are no obvious habitat connections for bats between the site and suitable habitats in the wider landscape.

The building is assessed as having ‘negligible’ potential to offer shelter to roosting bats (Collins 2016) within an undetectable location.

4.2 Bats

No bats or evidence of bats were found during the survey. In particular, no bat droppings were observed within the roof space, or in association with the hanging tiles façade to the western elevation.

The roof space is not considered to be suitable for roosting bats due to the fact that the underside of the roof has been sprayed with foam insulation, effectively sealing the space. See Appendix 1 for photographs.

4.3 Other Species

No evidence of other protected species was noted during the survey.

5 Legislative Guidance

As with many animal species within the UK, declines in the abundance and distribution of many bat species have been documented through recent decades. The reasons for these declines are various and complex but it is considered that the major factors are changes in landuse and agriculture, the loss of woodlands and hedgerows and the loss of suitable roosting sites.

Bats are particularly sensitive to human activity due to the fact that they roost within buildings, trees and underground structures such as mines, and the availability of suitable roost sites is considered to be a key factor in the conservation of bats within the UK. As a consequence, all species of bat and their roost sites are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and under The Conservation of Habitats and Species Regulations 2017. Taken together, these make it an offence to:

- (a) Deliberately capture or intentionally take a bat
- (b) Deliberately or intentionally kill or injure a bat
- (c) To be in possession or control of any live or dead wild bat or any part of, or anything derived from a wild bat
- (d) Damage or destroy a breeding site or resting place of such an animal or intentionally or recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection
- (e) Intentionally or recklessly disturb any wild bat while it is occupying a structure or place that it uses for shelter or protection
- (f) Deliberately disturb any bat, in particular any disturbance which is likely
 - to impair their ability;
 - (i) to survive, breed, reproduce or to rear or nurture their young; or
 - (ii) in the case of hibernating or migratory species, to hibernate or migrate; or
 - 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. It is important to note that since bats tend to re-use the same roost sites, current legal opinion is that a bat roost is protected whether or not the bats are present at the time.

Although the law provides strict protection to bats, it also allows this protection to be set aside (derogation) under The Conservation of Habitats and Species Regulations 2017 through the issuing of licences. Where a lawful operation is required to be carried out but which is likely to result in one of the above offences, a licence may be obtained from Natural England (the statutory body in England with responsibility for nature conservation) to allow the operation to proceed. However, in accordance with the requirements of The Conservation of Habitats and Species Regulations 2017, a licence can only be issued where the following requirements are satisfied:

- The proposal is necessary 'to preserve 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';

- 'There is no satisfactory alternative';
- The proposals 'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'.

These three criteria are often referred to as the 'three tests' of the Regulations. All three must be satisfied in order for a licence to be granted.

6 Potential Impacts

6.1 Bats

There is no evidence to suggest that the building (16 North Street, Reading) is being used as a place of shelter/protection by roosting bats and the building is considered to have 'negligible' potential to offer shelter to bats within an undetectable location.

As a result of this conclusion, works to the building are unlikely to result in any significant impacts on bats or the places that they use for breeding, shelter and/or protection (roosts) and no specific compensation measures are considered necessary (Mitchell-Jones 2004).

Since no significant impacts on bats are predicted under The Conservation of Habitats and Species Regulations 2017, a European Protected Species (bat) Licence will not be required for the proposed works to proceed. Since there are no predicted impacts on bats or their habitats, it is not necessary to consider the 'three tests' of The Conservation of Habitats and Species Regulations 2017 in this instance.

6.2 Other Species

There are no predicted impacts on other species.

7 Recommendations

7.1 Further Surveys

No further surveys, such as bat activity surveys, are recommended at the present time.

7.2 Mitigation Strategy

7.2.1 Timing

There are no timing recommendations with regard to works to the building.

7.2.2 Careful Work Practices

Works should proceed in a careful and controlled manner. Contractors should be briefed with regard to the fact that individual bats can often exploit very small crevices as roost sites and that bats can move between roost sites on a regular basis.

In the very unlikely event that bats or significant evidence of bats (for example large accumulations of fresh bat droppings) are encountered, works should stop immediately and advice sought from a qualified ecologist.

7.2.3 Enhancement

No enhancements are recommended in this instance.

This is due to the largely unsuitable habitats that surround the site, and the very low probability of enhancement features, such as bat boxes, being adopted.

8 References

Altringham, J., 2003. *British Bats*. Harper Collins.

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

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

9 Appendix 1. Photographs



Photograph 1. The western elevation of 16 North Street, Reading.



Photograph 2. The southern elevation of the building.



Photograph 3. The northern elevation of the building.



Photograph 4. The rear (eastern) elevation of the building (to the right side of the photograph).

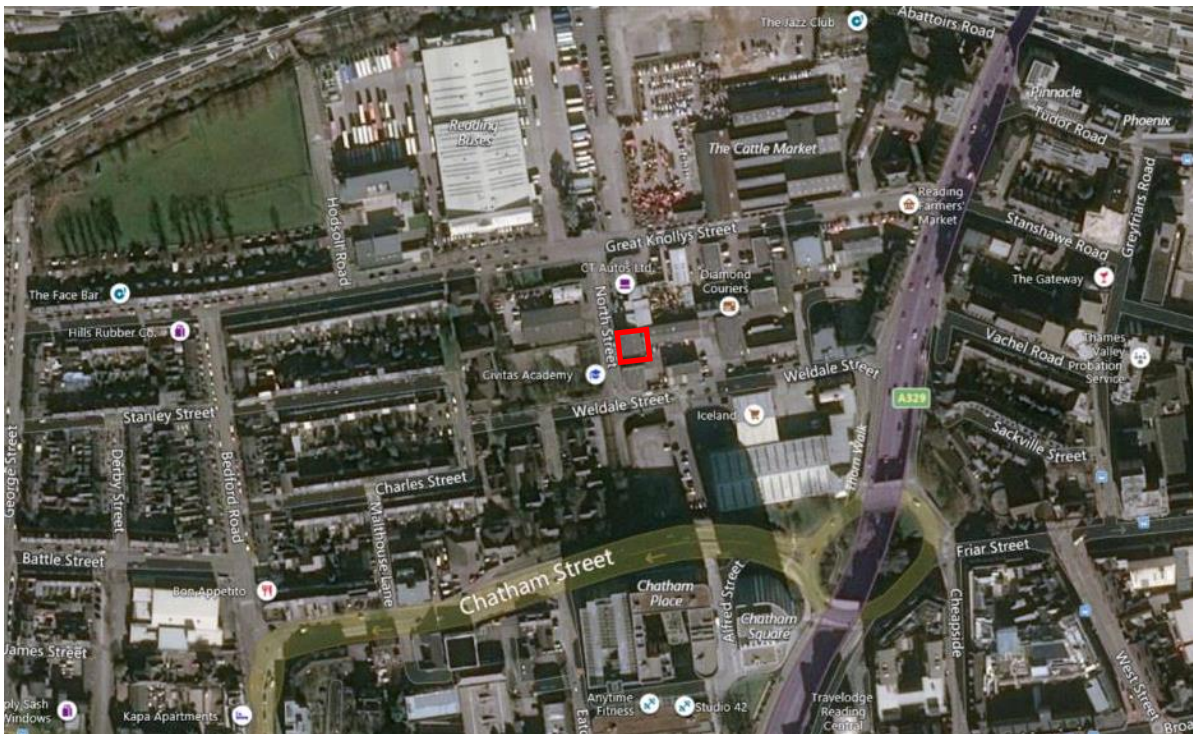


Photograph 5. The roof space.

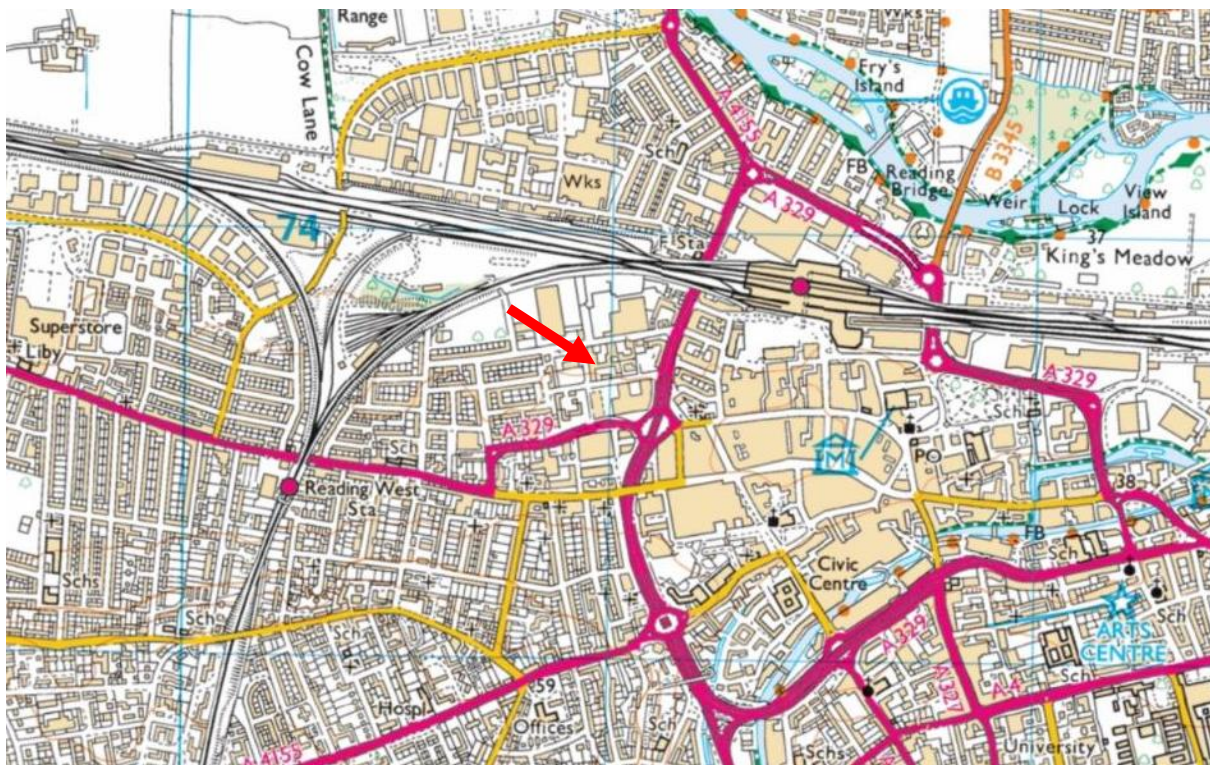


Photograph 6. Detail of the underside of the roof.

10 Appendix 2. Site Location Plans



Aerial photograph showing the location of 16 North Street (indicated by the red outline). Source: <http://maps.google.co.uk/>



Ordnance Survey map showing the approximate location of the building (red arrow) within the wider local area. Source: <http://www.bing.com/maps/>