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**8 Lewis Close, Risinghurst, Oxfordshire OX3 8JD**

**Protected Species Survey Report**

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**June 2023**

***on behalf of Richard Anderson***

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<b>Client</b>	Richard Anderson
<b>Job name</b>	8 Lewis Close, Risinghurst, Oxfordshire OX3 8JD
<b>Survey dates</b>	15 <sup>th</sup> June 2023 & 28 <sup>th</sup> June 2023
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## 1 Summary of Study

An initial bat survey and preliminary roost assessment of the dwelling at 8 Lewis Close, Oxford OX3 8JD, and a great crested newt habitat assessment of the wider property, was undertaken by Oliver Bevan *MEnvSci* on 15<sup>th</sup> June 2023.

This was followed by a dusk emergence watch on 28<sup>th</sup> June 2023.

Mr Bevan holds a licence from Natural England to survey for bats and great crested newts within all counties of England (WLM-A34-Level 1 2021-53108-CLS-CLS and WML-CL08-Level 1 2019-44120-CLS-CLS).

There is a broad proposal to demolish and replace the existing dwelling at 8 Lewis Close.

The building was surveyed for bats and evidence of bats in accordance with best practice guidelines published by the Bat Conservation Trust (Collins, 2016).

The building is assessed as having 'low' potential to offer shelter to roosting bats (Collins, 2016).

No bats, or evidence of bats, were found during the initial bat survey, and no bats were seen to emerge from the dwelling during the dusk emergence watch.

Bats are considered to be absent from the building.

The terrestrial habitats within the site are considered largely unsuitable for great crested newt.

Great crested newt is considered absent from the site.

As a result of this conclusion, the proposed works are unlikely to result in any significant impacts on bats or great crested newts, nor the places that they use for breeding, shelter and/or protection.

Since no significant impacts on bats are predicted under The Conservation of Habitats and Species Regulations 2017, a European Protected Species (bat/ great crested newt) Licence will not be required for the proposed works to proceed.

Recommendations are made for careful working regarding bats and great crested newts.

There is anecdotal evidence of nesting birds within the dwelling and as such a precautionary methodology is recommended for any works that could affect nesting birds.

## **2 Introduction**

### **2.1 Site Description**

8 Lewis Close, referred to as the 'site' for the purposes of this report, is a detached dwelling located at the southern end of Lewis Close, within the suburb of Risinghurst, Oxford in Oxfordshire OX3 8JD. The approximate Ordnance Survey grid reference for the site is SP 5600 0672.

8 Lewis Close comprises a detached dwelling situated within a garden of amenity grassland, hard-standing, shrubberies and trees. The dwelling itself is arranged over two storeys, with brick walls and a pitched roof of machine-made concrete tiles. The roof is open gabled, with PVC boxed eaves. To the north-west corner of the dwelling extends a single-storey section with a flat roof of bitumen and mineral roofing felt. There is a single loft space within the dwelling situated within the two-storey section of the building.

The site is bordered to the north, west and north-east by the dwellings and gardens of suburban Risinghurst. These buildings are detached and semi-detached, with mature gardens and occasional planted trees. To the south and south-east extends the C. S. Lewis Nature Reserve. This nature reserve comprises lowland mixed deciduous woodland and a relatively large pond. Beyond this nature reserve extends the Brasenose Wood and Shotover Hill Site of Special Scientific Interest, which is a mosaic of lowland mixed deciduous ancient woodland and lowland acidic grassland with remnants of heathland.

### **2.2 Proposed Works**

There is a broad proposal to demolish and replace the existing dwelling at 8 Lewis Close.

### **2.3 Aims of Study**

The aims of this study are to survey the dwelling at 8 Lewis Close for bats and/or evidence of bats. The study assesses the overall potential of the building to support roosting bats, and discusses the likely impact of the proposed demolition on bats and their habitats.

The study also aims to survey the terrestrial habitats within the site for their suitability to support great crested newt. The study discusses the likely impact of the proposed demolition on great crested newts and their habitats.

The report makes recommendations for appropriate mitigation, compensation and enhancement measures and the potential impacts are assessed in accordance with the legal protection afforded to bats and great crested newts under The Conservation of Habitats & Species Regulations 2017. The need for a European Protected Species (Bat and/or Great Crested Newt) Licence is also discussed in light of the impact assessment.

### **2.4 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.

## **2.5 Great Crested Newt Ecology**

Great crested newts are the largest of the three species of newt that occur in the UK. They are distinctive due to their relatively large size, dark colour and yellow or orange-coloured undersides covered in large black blotches. Males can be distinguished from females by the presence of a blue/grey flash on the tail and a jagged crest during the breeding season.

Great crested newts tend to spend the majority of their time on land, moving to ponds and pools to breed during the spring and summer (March to July), although some individuals can spend considerably longer within aquatic habitats. The female lays two or three eggs a day between March

and mid-July, until a total of 200 to 300 eggs have been laid. The eggs are laid on submerged aquatic vegetation, each carefully wrapped in a leaf.

The larvae (or efts) hatch after about three weeks and live in the pond as aquatic predators until they metamorphose into adult newts. They are vulnerable to fish predation, and water bodies containing fish are rarely used for breeding (this means that they do not usually use running water or larger lakes or ponds where fish are present).

After metamorphosis into air-breathing juveniles at about four months old, they live a terrestrial life until old enough to breed, which is at about two or three years of age. Both the juvenile newts and the adults (outside the breeding season) live in terrestrial habitats with dense cover such as scrub, rough grass and woodland, usually within about 200-300 metres of the breeding pond. They rest during the day beneath rocks, logs or other shelters.

Larval newts usually feed on tadpoles, worms, insects and insect larvae. Adults hunt in ponds for other newts, tadpoles, froglets, worms, insect larvae and water snails. They also hunt on land for insects, worms and other invertebrates. During the winter months, the newts hibernate under logs and stones. The newts normally return to the same breeding site each year, and can live as much as 25 years, although up to about 10 years is more usual.

### 3 Methodology

#### 3.1 Initial Bat Survey & Preliminary Roost Assessment (PRA)

An initial bat survey (daytime building inspection) and preliminary roost assessment (PRA) were undertaken on 15<sup>th</sup> June 2023, by Oliver Bevan *MEnvSci*. Mr Bevan holds a licence from Natural England to survey for bats within all counties of England (Natural England Level 1 Licence no. 2021-53108-CLS-CLS).

A detailed external survey of the dwelling at 8 Lewis Close 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. 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-20<sup>th</sup> Century or early 20<sup>th</sup> 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 to determine the level of 'bat roost potential' within buildings (Collins, 2016):

**Negligible:** Negligible habitat features on site 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).

**Moderate:** A structure 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.

**High:** A structure with one or 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.

### 3.2 Bat Activity Survey (dusk emergence watch)

Following the results of the initial bat survey, a single bat activity survey was commissioned and undertaken at 8 Lewis Close to look for bats emerging from the dwelling at dusk. This survey was undertaken on 28<sup>th</sup> June 2023.

The survey was undertaken by two surveyors and one night vision aid (Nightfox Whisker) to grant full visual coverage of the building (see Figure 1).

The surveyors were equipped with Echometer Touch bat detectors to listen to and record bats in real time. Bats were identified to species where possible.

The survey was undertaken by Oliver Bevan *MEnvSci* and Jan-Piet Stuursma. Mr Bevan and Mr Stuursma both hold licences from Natural England to survey for bats in all counties of England (Natural England Level 2 WML-CL08 Licence 2019-44120-CLS-CLS & Natural England Level 1 WML-CL18 2018-37063-CLS-CLS).

Table 1. Timing, weather conditions and personnel during the bat activity survey.

Date	Timing	Sunset/ sunrise	Weather	Personnel
28/06/2023	21:15- 22:45	21:29	17°C to 17°C, Beaufort Scale 2, 60% cloud, drizzle from 22:40	Oliver Bevan <i>MEnvSci</i> Jan-Piet Stuursma

Weather conditions were considered to be suitable for the bat survey. A light rain showers occurred towards the end of the survey. However, bats had already emerged from local roosts by this time and were continually noted throughout the remainder of the survey. As such, the weather is not considered to have dissuaded potential emergences.





Figure 1. Aerial photograph showing the location of the surveyors during the bat activity survey. Surveyor locations are indicated by the red dots.

### 3.3 Great Crested Newt Habitat Assessment

Considering the presence of ponds within close proximity to the site, a great crested newt habitat assessment was undertaken on all terrestrial habitats within the site, on 15<sup>th</sup> June 2023. This assessment took into account the suitability of habitats for great crested newt during all terrestrial stages of their life cycle, including foraging, commuting and hibernating. The assessment was undertaken by Oliver Bevan *MEnvSci* who holds a licence from Natural England to survey for great crested newts *Triturus cristatus* within all counties of England (Natural England Level 1 WML-CL08 Licence 2019-44120-CLS-CLS).

There are no aquatic habitats within the site suitable for breeding amphibians.

### 3.4 Limitations

The interior of the building could not be accessed as part of the initial bat survey. However, there are not believed to be any internal loft spaces, enclosed voids or cellars within the building which could offer shelter to roosting bats.

## 4 Results

### 4.1 Habitats

#### 4.1.1 Description of Building

The dwelling at 8 Lewis Close is a detached, two-storey building that occupies an approximate footprint of 190m<sup>2</sup>. The dwelling has brick walls, and a pitched roof of machine-made concrete tiles.

The roof has open gables with boxed eaves, with the roof extending to the ground floor ceiling on the northern elevation. To the north-west extends a single-storey brick-built garage with a flat roof of bitumen and mineral roofing felt, whilst to the south extends a single-storey glass conservatory.

There is a single accessible loft space within the dwelling, located above the two-storey section of the building. This loft space has a floor to ridge height of approximately 1.5m, and a simple timber truss structure, atop which sits a bitumen and hessian underlay. The gable ends within the loft space are formed of brick, which was found to be tight fitting with no gaps, cracks or cavities observed within the brickwork which could be utilised by bats. With all artificial lighting switched off there was no natural light ingress into the loft space. The loft also had a relatively dense layer of cobwebs to the ceiling indicating no recent bat activity within the space. There are also no cellars within the building.

Concrete roof tiles atop the dwelling are in a relatively good state of repair. A small number of shifted tiles were noted to the northern elevation. However, these are not believed to provide bat access into the building, as the gaps seem relatively small. The boxed eaves of the dwelling are largely in a good state of repair. However, two gaps were noted on the eastern and southern elevations where the soffit board has detached slightly from the eaves.

The walls of the building are in an excellent state of repair, with no gaps or cavities in the brickwork.

The dwelling is assessed as having 'low' potential (Collins, 2016) to offer shelter to roosting bats. This is due to the presence of two gaps in the boxed eaves of the southern and eastern elevations. This assessment takes into account the relatively good ecological context of the building, in proximity to the lowland mixed deciduous woodland, which is considered to be very suitable for foraging and roosting bats.

#### 4.1.2 *Other Terrestrial Habitats*

The dwelling sits within a vegetated garden of close mown lawns and planted beds. The lawn is maintained at a height of ~5cm through regular mowing. The planted beds are well tended featuring bare ground and occasional introduced shrubs. Other features within the garden include a hard-standing patio, decorative stone wall and vegetable beds.

## 4.2 **Roosting Bats**

### 4.2.1 *Evidence of Bats*

No bats or evidence of bats (such as bat droppings) were found during the survey.

No evidence of bats, such as fur staining or scratch marks, was found in association with the dwelling.

### 4.2.2 *Bat Activity (Emergence)*

No bats were seen to emerge from the dwelling at 8 Lewis Close during the bat activity survey on 28<sup>th</sup> June 2023.

Bat activity was relatively sporadic during the survey, with no bat activity recorded in close proximity to the building.

Recorded species appeared to be commuting past the site and include common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and noctule *Nyctalus noctula*. No foraging was noted within the site.

#### 4.2.3 Summary

The results of the preliminary roost assessment and bat activity survey indicate that roosting bats are absent from the building.

Roosting bats are considered to be absent from the building.

#### 4.3 Nesting Birds

No evidence of nesting birds was identified in association with the dwelling.

However, there is anecdotal evidence of blue tit *Cyanistes caeruleus* utilising the eastern wall fabric for nesting. Similarly, there is anecdotal evidence of house sparrow *Passer domesticus* nesting within the boxed eaves to the southern elevation.

#### 4.4 Great Crested Newt

Terrestrial habitats within the site are of very limited suitability to amphibians, being dominated by close-mown lawn, hard-standing and planted shrubs within bare earth flowerbeds. Similarly, potential hibernacula are very limited, with the stone wall searched by hand and found not to be of substantial construction, with no deep crevices or cavities present which could provide humid thermally stable conditions for hibernating amphibians.

There are five ponds within a 500m radius of 8 Lewis Close (as shown on Ordnance Survey maps). The closest of these ponds is situated approximately 15m south of the southern garden boundary, within the C S Lewis Nature Reserve. There are also positive presence records from class licence returns located approximately 490m south-west of the site. In addition, the site sits within an amber zone as shown on the Nature Space great crested newt impact risk map. There is therefore likely to be a great crested newt presence within the locality of 8 Lewis Close.

Despite the likely presence of great crested newt beyond the site boundary, it is considered unlikely that great crested newt will utilise the site, as the local ponds are surrounded by highly suitable habitat. The site contains an intensively managed garden, which is not expected to offer much in the way of refugia or foraging opportunities. Research by Creswell and Whitworth (2004) found that the majority of great crested newts are found within approximately 50m of a breeding pond, given suitable habitat in close proximity to the pond, and they also found a significant drop-off in capture of newts beyond 100m of a pond. Considering this, it is considered unlikely that great crested newt will bypass suitable terrestrial habitat to reach the site, particularly in significant numbers.

Great crested newt are therefore considered likely absent from the site. However, due to the presence of a local population a precautionary approach should still be adopted.

### 5 Discussion

#### 5.1 Legislative Guidance

##### 5.1.1 Bats

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.

### 5.1.2 *Nesting Birds*

Nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. The nesting season for most species is between March and August inclusive.

Species listed on Schedule 1 of the Act are also protected from disturbance whilst nesting, and whilst preparing to nest.

### 5.1.3 Great Crested Newts

Great crested newts and their habitat 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 great crested newt
- (b) Deliberately or intentionally kill or injure a great crested newt
- (c) To be in possession or control of any live or dead wild great crested newt or any part of, or anything derived from a wild newt
- (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 great crested newt uses for shelter or protection
- (e) Intentionally or recklessly disturb any wild great crested newt while it is occupying a structure or place that it uses for shelter or protection
- (f) Deliberately disturb great crested newts, in particular any disturbance which is likely
  - to impair their ability;
  - (i) to survive, breed, reproduce or to rear or nurture their young;
  - (ii) to hibernate;
  - to affect significantly the local distribution or abundance of the species to which they belong

Although the law provides strict protection to great crested newts, it also allows this protection to be set aside (derogation) under The Conservation of Habitats and Species Regulations 2017 through the issuing of licences (referred to as European Protected Species Licences or EPSL). 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.

## 5.2 Impact Assessment

### 5.2.1 Bats

There is no evidence to suggest that the dwelling of 8 Lewis Close is being used as a place of shelter/protection by roosting bats. No bats were seen to emerge from the building during the bat activity survey and roosting bats are considered to be absent.

As a result of this conclusion, the proposed works are unlikely to result in any significant impacts on bats or the places that they use for breeding, shelter and/or protection (roosts).

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

re-roofing 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.

### 5.2.2 *Birds*

At present there are not believed to be any active birds nests, namely house sparrow or blue tit, within the dwelling. However, should such a nest could reappear within the dwelling, and as such works should proceed with this in mind.

### 5.2.3 *Great Crested Newt*

The proposals will result in the replacement of the onsite dwelling, as well as minor modification of the garden. The vast majority of garden habitats will be retained unaltered.

Considering the limited area of impacts coupled with the low terrestrial suitability of habitats within the site, it is considered that potential killing and injury of amphibians during construction can be avoided. This can be achieved through the adoption of careful working practices. There are no foreseeable impacts with regard to obstruction to breeding ponds, or dispersal through the site during operation.

## 6 Recommendations

### 6.1 Further Surveys

No further surveys are considered necessary at present.

### 6.2 Bats

#### 6.2.1 *Licensing*

A European Protected Species (bat) Licence will not be required for the proposed works to proceed.

#### 6.2.2 *Timing*

There are no timing constraints.

#### 6.2.3 *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.

#### 6.2.4 *Lighting*

It is recommended that additional external lighting is avoided, unless it is necessary for reasons of security and safety.

Where external lighting is required, it should be kept at low level and a low intensity, with hoods and baffles used to direct the light to where it is required (Bat Conservation Trust 2018, Emery 2008). To minimise the impact on bats, the use of low pressured sodium lamps is recommended in preference to mercury or metal halide lamps which have a UV element that can affect the distribution of insects and attract bats to the area, affecting their natural behaviour (Bat Conservation Trust 2018).

The key principals for choosing a suitable type of lamp are:

Avoid blue-white short wavelength lights: these have a significant negative impact on the insect prey of bats. Use alternatives such as warm-white (long wavelength) lights as this will reduce the impact on insects and therefore bats.

Avoid lights with high UV content: (e.g. metal halide or mercury light sources) or reduce/completely remove the UV content of the light. Use UV filters or glass housings on lamps which filter out a lot of the UV content.

Selecting an appropriate lamp unit that is designed to be environmentally friendly will minimise light spill, but further controls can be imposed by installing directional accessories such as baffles, hoods and louvres on lamps to direct light away from ecologically sensitive areas, namely the adjacent woodland to the south.

LED (Light Emitting Diode) units are an effective way to direct the light into small target areas and are recommended for lighting the proposed parking and turning area. Composite LEDs can be switched off to reduce/direct the light beam to specific areas.

#### 6.2.5 *Enhancement*

Although it is not necessary from a legal perspective, consideration should be given to the erection of a bat box, or bat roost feature, as part of the proposals.

It is recommended that a bat brick/bat box be erected/integrated on the exterior of the new building. Bat brick (sometimes also referred to as 'bat tubes') features can be obtained pre-fabricated and integrated directly into the fabric of the exterior walls of a building. The brick/tube has an external entrance slot which leads to an internal cavity for roosting (e.g. the Schwegler 1FR bat tube). The brick/tube can be concealed behind external cladding, brickwork, stonework or render. For example, bat bricks/ bat tubes can easily be installed into traditional or modern buildings with external wooden weatherboarding; the brick/tube being concealed behind the overlapping wooden boards with access via a gap under a lifted board which leads to the entrance slot of the brick/tube. Bats can fit through very small gaps and so a crevice of 2-2.5cm should be sufficient to allow access to the slot of the bat brick/tube.

Alternatively, a conventional bat box could be installed; this could be traditional wooden box, or a longer-lasting woodcrete box (Schwegler box) specifically designed for buildings and houses (e.g. the Schwegler 1FQ or 1WQ bat boxes). If such a box is adopted, it is recommended that it is installed as high as possible on the exterior walls, just under the eaves. South-facing façades should be favoured for box placement.

Bat boxes can also be erected on trees, if there is a suitable tree in the garden.

### 6.3 **Birds**

#### 6.3.1 *Mitigation*

It is recommended that any works to the dwelling, particularly demolition, avoid the bird nesting period (avoiding March to August inclusive). This will avoid any impacts on nesting bird species as a result of the destruction of active nests, and killing/injury of young. If this cannot be achieved, then works should be preceded by a nesting bird check to ensure the dwelling is free from active nests. If an active nest is found, then works impacting the nest will need to be postponed until the chicks have fledged and the birds have left the nest.

### 6.3.2 Compensation and Enhancement

It is recommended that the potential loss of blue tit and house sparrow nests is compensated for through the erection of nest boxes. Suitable nest boxes should ideally be integrated into the new dwelling to mimic the existing situation. Appropriate integrated boxes for both species are:

- Bird Brick Houses Standard Box
- Bird Brick Houses Sparrow Terrace Box
- Vivara Pro WoodStone House Sparrow Nest Box

It is also recommended that bird boxes be erected onto the refurbished dwelling to act as an ecological enhancement. The location and nature of such a nest box depends on the species it is designed for; boxes for tits, sparrows or starlings should be fixed two to four metres up a tree or a wall; open-fronted boxes for robins and wrens need to be low down, below 2m, and well-hidden in vegetation. Unless there are trees or buildings which shade the box during the day, boxes should be faced between north and east, thus avoiding strong sunlight and the wettest winds.

Recommended boxes for external mounting are:

- 1B Schwegler Nest Box
- 2H Schwegler Robin Box
- Vivara Pro Seville 28mm Woodstone Nest Box

Recommended integrated bird nesting features would benefit declining urbanised bird species such as swifts or house sparrows. It is preferable that bird boxes for urbanised species be installed on northern or eastern faces under the eaves of a building. Swift boxes should ideally be installed at least 4m above ground level.

Recommended integrated boxes are:

- No. 17A Schwegler Swift Nest Box (Triple Cavity)
- Bird Brick Houses Sparrow Terrace Box
- Vivara Pro Woodstone House Sparrow Nest Box
- 1SP Schwegler House Sparrow Terrace

## 6.4 Great Crested Newt

A European Protected Species Licence is not considered necessary for the proposed works to proceed at 8 Lewis Close. This due to the fact that there will be no significant destruction of terrestrial habitat and great crested newt is considered likely absent from the site.

Therefore, no significant impacts on great crested newts are predicted under The Conservation of Habitats and Species Regulations 2017 (as amended).

However, a precautionary approach is still recommended, due to the presence of great crested newt within the wider local landscape. The following strategy for great crested newts has been developed in accordance with the Great Crested Newt Mitigation Guidelines (English Nature, 2001). The strategy includes the following elements:

- Vegetation & site clearance**, to discourage great crested newts and other amphibians from areas which will be cleared to bare ground to facilitate the development;
- Storage of machinery and materials**, to be stored on areas of hardstanding or raised off the ground on pallets;



**Waste materials & management of excavations**, waste materials will be removed off site immediately or stored in skips and excavations will be managed in order 'pitfall traps' are not created;

**Discovery of a great crested newt.**

#### 6.4.1.1 *Vegetation & Site Clearance*

Immediately prior to the ground works, directional vegetation clearance/cutting (avoiding wet weather during the active period which runs from February/March to October), and soil stripping will be undertaken. The direction of working will be from north to south to encourage amphibians to disperse towards safe areas within the southern portion of the garden which are to remain unaffected.

Vegetation surrounding the working zone should be maintained at <50mm through regular strimming until the construction is completed in order to discourage amphibians and small mammals from frequenting the area.

Vegetation will be cleared within the active season of March to October.

#### 6.4.1.2 *Storage of Machinery, Materials and Tools*

Machinery, materials and tools must be stored on areas of hard standing within the working zone or raised off the ground on pallets.

#### 6.4.1.3 *Waste Materials & Management of Excavations.*

Waste materials must be removed off site immediately or stored in skips.

As a precaution, any excavations must be covered overnight, or ramps placed in to allow any animals to escape. Excavations and working areas must be managed so as not to create temporary waterbodies which may attract newts onto site.

#### 6.4.1.4 *Discovery of a Great Crested Newt*

If a great crested newt is discovered on site when the suitably qualified newt ecologist is not present, works will stop immediately, and the ecologist will be contacted for advice.

If disturbance to small numbers of newts were to occur, it is unlikely to impair their ability to survive, breed, and reproduce or to rear or nurture their young or to significantly affect the local distribution or abundance of the species.

Therefore, works may be able to continue once advice has been given and the issue has been resolved. However, individual situations will have to be evaluated on a case-by-case basis and a European Protected Species Licence may be required to allow works to proceed if the impacts are considered to be significant under The Conservation of Habitats and Species Regulations 2017 (as amended).precautionary working method described above (with regard to reptiles) is also recommended with regard to amphibian species. It is considered that the adoption of these measures can avoid any need for a European Protected Species (great crested newt) Licence.

## 7 References

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

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

Joint Nature Conservation Committee, 2012. *Bat Worker's Manual*. Joint Nature Conservation Committee, Peterborough, UK.

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

## 8 Appendix 1. Photographs



Photograph 1. The dwelling at 8 Lewis Close, viewed from the north-east.



Photograph 2. The dwelling viewed from south-east.



Photograph 3. Interior of the loft space.



Photograph 4. The dwelling and wider garden.

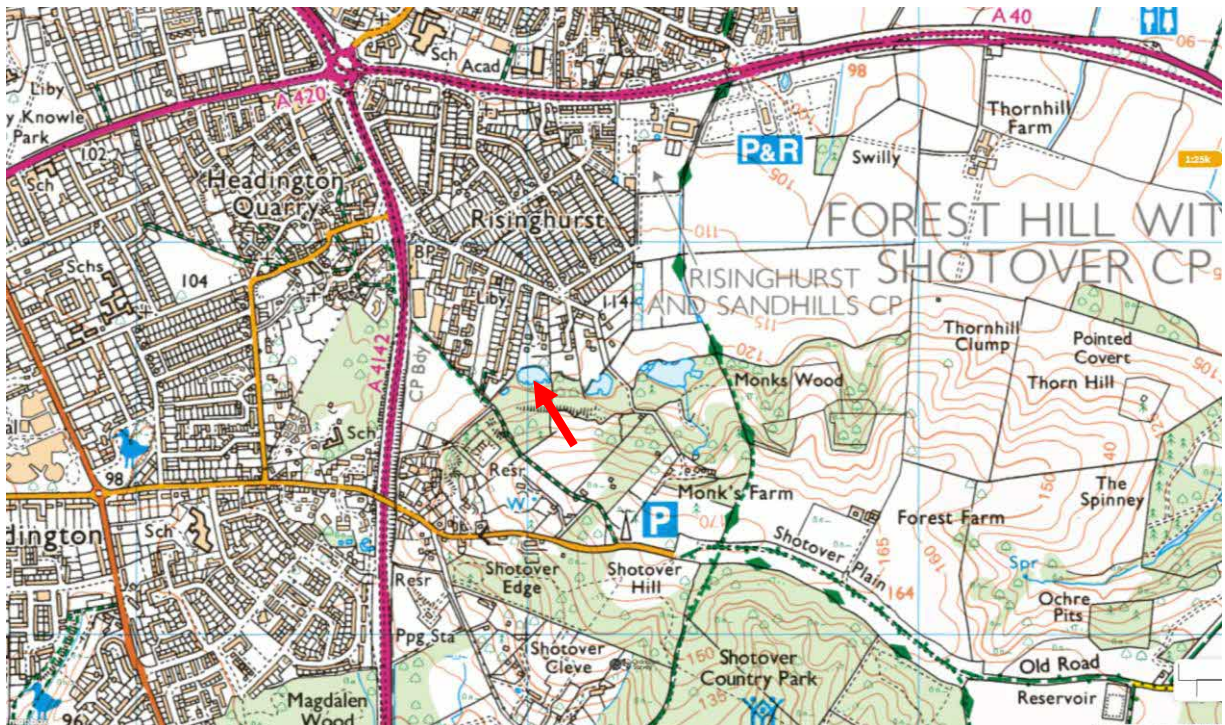


Photograph 5. Southern portion of the garden.

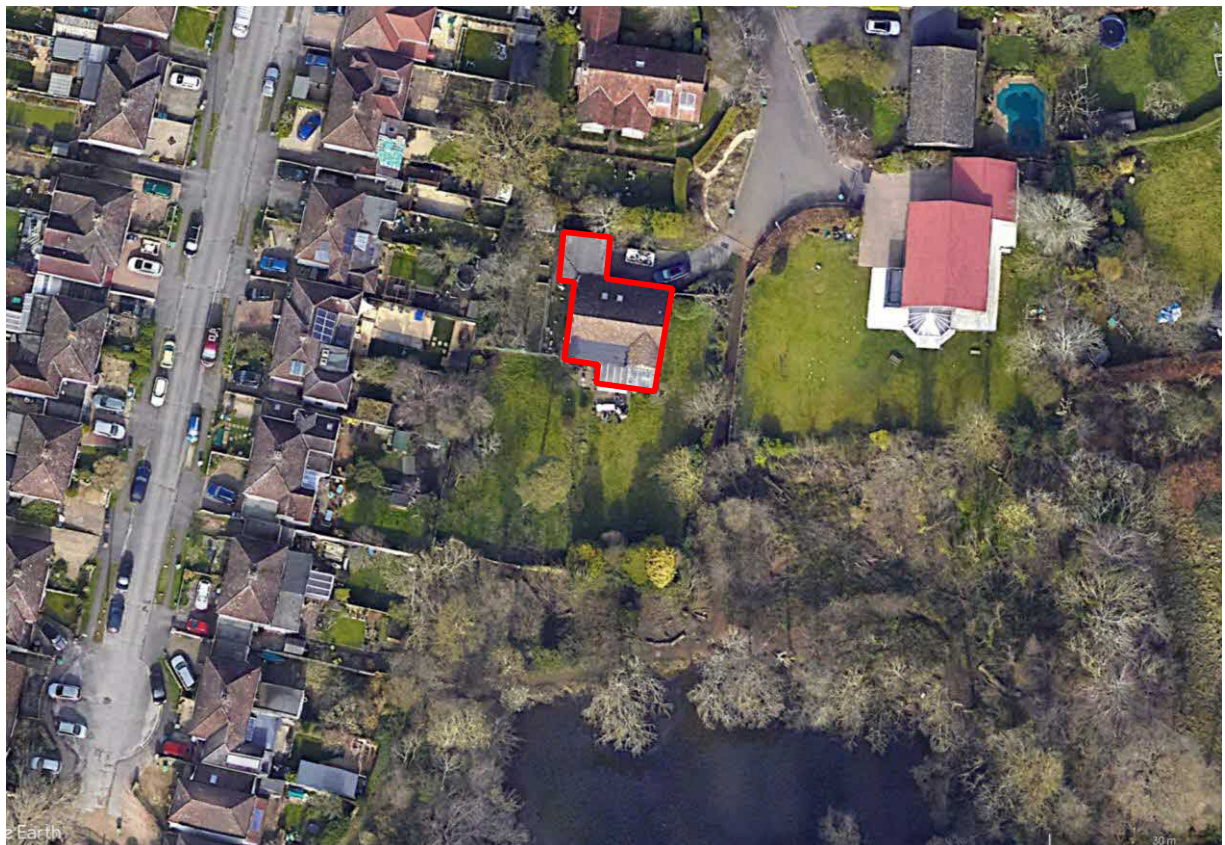


Photograph 6. Garden and hard-standing to the south of the dwelling.

## 9 Appendix 2. Site Location Plans



Ordnance Survey map showing the approximate location of 8 Lewis Close (indicated by the red arrow) within the local area.



Aerial photograph showing the location of the dwelling at 8 Lewis Close (outlined in red).