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Cold Comfort Farm, Rogues Lane Hinckley,

Bat Mitigation Report July 2024



Confor
Promoting forestry and wood



Supplier
Qualification
Scheme



Report for

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Contents

Non-Technical Summary	3
1. Introduction	4
1.1 Background	4
1.2 Site Description	4
1.3 Proposed Works	6
1.4 Previous Surveys	7
1.5 Aims of this Report	7
1.6 Constraints	7
2. Results	8
2.1 Updated PRA	8
2.2 2024 Emergence Survey	10
2.3 Evaluation	12
3. Mitigation Strategy	13
3.1 Compensation for Lost Roosts	13
3.2 Timing of Works	14
3.3 Toolbox Talk	14
3.4 Soft Stripping Technique	14
3.5 Lighting	15

Non-Technical Summary

The "Cold Comfort Farm" site in Hinckley, Rogues Lane, Leicestershire, consists of a barn and a farmhouse, with plans to convert the barn into living space.

Between 2021 and 2023, Hillier Ecology Ltd conducted one survey per year confirming the presence of a day roost for Natterer's and brown long-eared bats, and noting the barn's use as a feeding site for common pipistrelles.

Three Shires Ltd was commissioned to conduct an emergence and activity bat survey of the barn and to produce a mitigation plan to meet Hinckley and Bosworth Borough Council planning requirements.

An emergence survey was undertaken in May 2024 and a single brown long eared bat was recorded emerging from the barn, with (relatively) low levels of common pipistrelle activity around the barn. Natterers and common pipistrelle (or other species) were not recorded emerging in this survey.

The findings are broadly consistent with the previous surveys and despite being undertaken over a 4 year period, the Site has been surveyed in May, June, August and September, providing a range of surveys and enabling an estimate of roost characterisation to be undertaken.

Due to the nature of openings in the form of doorways and hayloft hatches as well as gaps in the roof, only the eastern end of the barn is considered to provide potential for roosting. The barn is not considered to have maternity or hibernation roost potential.

The building is considered to provide summer day roosts for small numbers of Natterers (max count 3) bats and summer day roosts/feeding perches for brown long eared bat (peak count 2). Although common pipistrelle have been recorded feeding locally near and within the barn, no surveys have confirmed emergence of this species, although it is considered likely that occasional roosting by small numbers of very likely.

Mitigation, in the form of eight bat boxes, of varying types and designs is proposed, with six boxes located, prior to refurbishment works, on nearby trees that will be retained and two further boxes to be installed on the outside of the barn post development. This provides alternative roosting capacity in the locality and provides replacement in a greater ratio than 2:1 for roosts lost – recognising the size of the barn itself.

1. Introduction

1.1 Background

Cold Comfort Farm lies off Rogues Lane, Hinckley, Leicestershire, and consists of two buildings: a barn and a farmhouse. The proposed project aims to convert the barn into living accommodation.

In 2021 Preliminary Roost Assessment (PRA) conducted by Hillier Ecology Limited, the buildings were identified as having features that resulted in the barn being recorded as having moderate potential for roosting bats. Signs of bat presence, such as feeding remains and droppings (considered likely to be of brown long eared and pipistrelle bats), were discovered within the barn, along with the identification of suitable roosting features.

Reports providing the findings of surveys undertaken by Hillier Ecology Limited between 2021 and 2023 state a maximum of three Natterer's (*Myotis nattereri*) were recorded flying within the upper levels of the barn with a single brown long-eared bat (*Plecotus auritus*) also recorded flying in the same space. Additionally, small numbers of common pipistrelle bats (*Pipistrellus pipistrellus*), were found to be using the interior of the adjoining barn for foraging but emergences for this species were not confirmed.

Three Shires Ltd was commissioned by HSSP Architects Ltd on behalf of the client to undertake one emergence and activity bat survey of the barn and produce a mitigation plan in line with the requirements of Hinckley and Bosworth Borough Council planning permission.

Planning permission (23/00933/CONDIT) Condition 9 states:

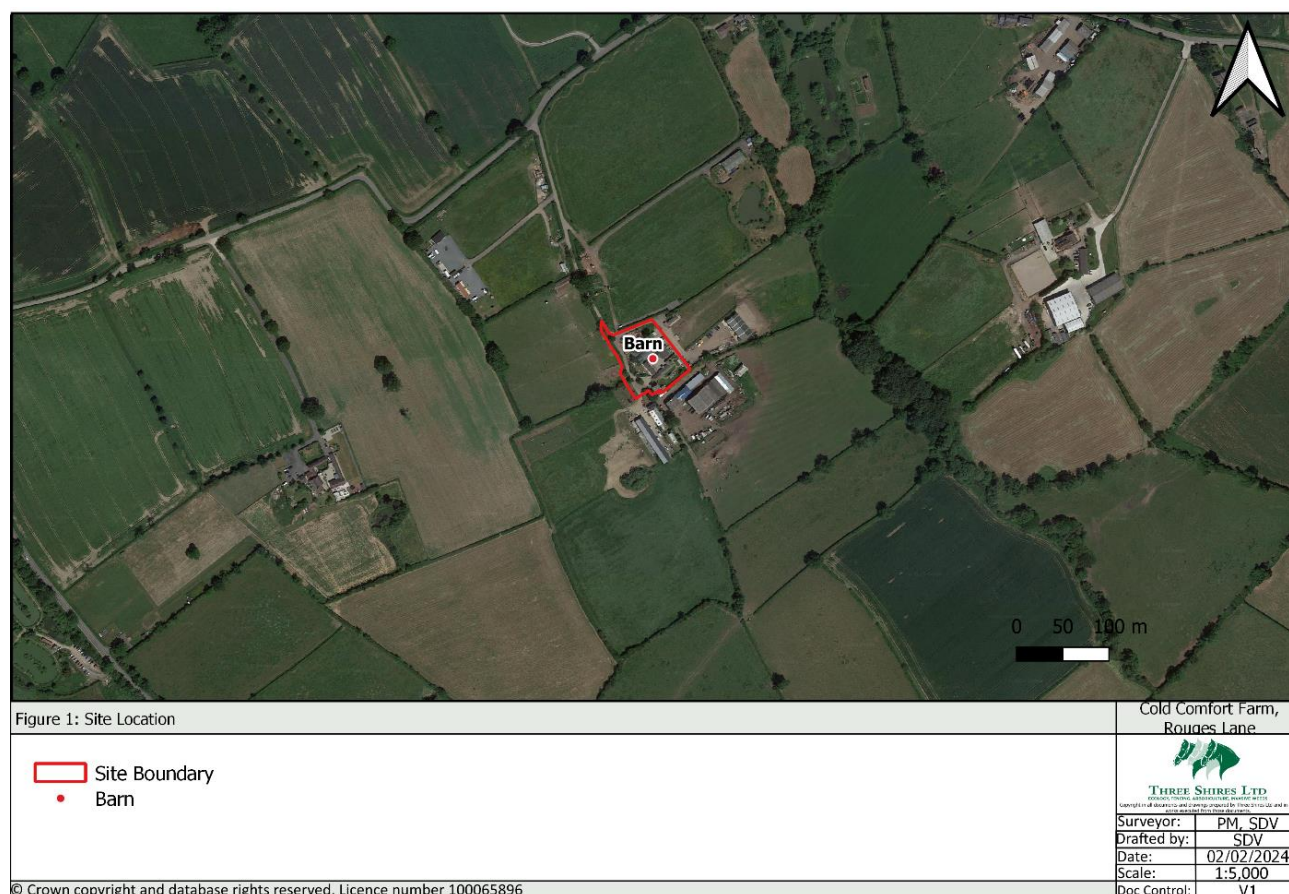
"No works shall commence on the brick barn identified in the Preliminary Bat Roost Assessment and Bird Survey dated August 21, until 1 nocturnal bat emergence and activity survey to update the existing submitted Preliminary Bat Roost Assessment and Bird Survey dated August 21 by Hillier Ecology has been submitted to and approved in writing by the Local Planning Authority. The updated survey shall be accompanied by a scheme of appropriate mitigation measures (including precise details of the timing and method of protection). No works on the brick barn shall be undertaken except in accordance with the approved scheme of mitigation."

1.2 Site Description

The Site, covering an area of approximately 0.445ha, is situated off Rogues Lane, Hinckley, Leicestershire, LE10 3DX (NGR SP4187696356). The Site lies within predominantly flat arable and pasture landscape, approximately 1.5km south-east from the village of Stoke Golding and 2.2km north of Hinckley.

The Site lies within fields used for agricultural and equestrian purposes on site and has good connectivity to the wider landscape by hedgerows and there are small woodlands and small waterbodies within a 250m radius of the site. (**Figure 1.**)

Figure 1: Site Location in the Landscape Context



The barn present on site dates to the early 1900's, is currently in poor condition. It is brick built and attached at right angles to a residential building.

For the purposes of this report, only the eastern section of the property is to be assessed and is used as an agricultural barn/ hay loft. The western section of the property is a residential property.

Joining the northern wall of the barn and northern gable of the residential property there is a metal framed agricultural barn. It is believed that the two properties (barn and residential) do not share a loft space, despite, the rooves tying into each other and on inspection there was a dividing wall between the properties. The brick barn was roofed with Canterbury style tiles in a gable design, with partial felting underneath. **Photographs 1 & 2** show the southern and northern aspects of the barn.

A photograph of a dilapidated brick building, likely a warehouse or industrial structure. A large section of the brick wall is missing, exposing the interior wooden framework and debris. In the foreground, the handlebars and seat of a forklift are visible. To the right, a red fire extinguisher stands on a small stand, and a wooden ladder leans against the wall. The roof is made of corrugated metal, and various pipes and electrical conduits are visible on the exterior wall.

1.4 Previous Surveys

A Potential Roost Assessment and three emergence and activity surveys were carried out by Hillier Ecology Limited in August/September 2021, August 2022, and June 2023.

The PRA undertaken in August 2021 recorded the building as having moderate potential but with evidence of bat roosting present in the form of, old, likely pipistrelle and brown long eared bat droppings and feeding remains.

A single emergence survey was undertaken in September 2021 which recorded two Natterers bat roosting in the upper levels of the barn. As a confirmed roost, and a full suite of roost characterisation surveys (likely 2-3 emergence surveys earlier in the season) would have been expected the following year.

However, only a single emergence survey was undertaken in August 2022. This recorded two Natterers bats flying and feeding in the upper internal levels of and exiting the barn, along with brown long eared bat roosting and flying internally.

In June 2023 a further single emergence survey was undertaken. This recorded a maximum of three Natterers bats flying in the internal upper levels of the barn.

All surveys recorded activity of common pipistrelle in and around the barn, but with no evidence of roosting.

The findings of previous report have been interpreted in this assessment. Although, the conclusions of the report of the original site visit in August 2021 by Hillier Ecology are unclear the results from the previous surveys undertaken are helpful in determining the consistent use of the building by bats over time.

Survey data over the period August 2021 to June 2023 does suggest that the barn is used by small numbers of Natterers bat (max of 3 individuals recorded) as a likely day roost, and by individual brown long eared bats as a day/night roost or feeding perch. Roosts of common pipistrelle cannot be confirmed.

1.5 Aims of this Report

The aim of this report is to:

- Present the results of a further emergence survey undertaken in the current activity season.
- Compare the features of the building in its current form and evaluate the effects of any changes.
- Present a scheme of mitigation and compensation for roost losses (which will be required to be delivered under a Natural England licence).

1.6 Constraints

Lack of detail in previous reporting by Hillier Ecology, led to difficulty in determining the findings of the PRA and subsequent activity surveys.

The owner/proprietor of the property was sweeping the floor of the upper level of the barn when surveyors arrived on site on the 16 January 2024. The action was stopped until the survey had been completed as to preserve any evidence of bat activity such as feeding remains or droppings. It is believed that this action has not significantly affected the findings of this report.

During the site visit on the 16 January 2024 there was no access to the residential property. There is a partition wall within the barn's western end but it could not be ascertained if the properties share a loft space or the level of connectivity between the loft spaces.

2. Results

2.1 Updated PRA

On 16 January 2024 two ecologists from Three Shires Ltd visited the site. The visit was led by Senior Ecologist Phillip Marrs (Natural England Licence Number 2022-10427-CL18-BAT) and Sara De Vittoris, Assistant Ecologist. The site visit consisted of a visual survey of the barn to assess if there had been any changes to the structure that may have affected the roosting potential for bats within the barn as described in the Preliminary Roost Assessment (PRA) dated 2021.

The barn is an agricultural barn / hay loft and currently in poor condition. It is characterised by a red brick construction with a timber framed roof and Canterbury style tile covering, with bitumen felt present only on the western third of the building.

The lower floor of the barn is divided into three sections that are accessible from both the north and south aspects of the building. All three sections of the lower floor were in use at the time of the survey for general storage (**Photograph 3, Photograph 4**).



Photograph 3: Room of the lower level used for storage



Photograph 4: Room of the lower level used for storage

All sections of the lower floor spaces were inspected, several possible roost features were identified. Despite this, large quantities of cobwebs were observed in all areas of the lower level (**Photograph 5 & 6**) and the features were considered unsuitable for use by roosting bats due to the environmental conditions and level of disturbance within the lower level of the building.



Photograph 5: Representative image of the ceiling structure of the barns lower level.



Photograph 6: Representative image of the cobwebbing of the ceiling structure in the barns lower level.

The upper level of the barn is also divided into three sections with the eastern and middle section sharing an open roof space (**Photograph 7**), the western most section of the upper level is partially isolated by a non-weight bearing partition wall with bitumen underfelt (**Photograph 8**). There are multiple open access points for bats into the building at both the upper and lower levels, these include open doorways, windows, missing masonry and missing roofing tiles.

Bats have free movement within the building, between all spaces within the upper level of the building, and access via open doorways, missing masonry, internal windows and over the non-weight bearing wall separating the western roof space. This generally led to the eastern section of the roof space being light and airy, with lower potential for roosting.



Photograph 7: Roof structure of the eastern and midsection of the upper floor of the barn.



Photograph 8: Roof structure of the western section of the upper floor of the barn, with bitumen felt present.

However the roof structure of the western section of the barn was considered to provide good roost opportunity for roosting bats. The roof was lined with bitumen felt, open ridge board with very few cobwebs observed within the roof space, also conditions within this space were considered favourable to roosting bats with low light levels and subject to very infrequent human disturbance.

2.2 2024 Emergence Survey

2.2.1 Methodology

A single emergence survey was undertaken of the barn on 13 May 2024 in accordance with Best Practice Guidelines¹. The survey was led by a Level 1 Class Licence holding ecologist (Natural England Licence Number 2022-10773-CL17-BAT), assisted by suitably experienced ecologists from Three Shires Ltd.

The emergence survey began approximately 15 minutes before sunset and concluded 2 hours after sunset, times and weather conditions are shown in **Table 1**.

Table 1: Survey Times and Weather Conditions

Date	Emergence/Re-entry	Survey Time	Weather Conditions
13/05/2024	Emergence	Start: 20:38 Sunset: 20:53 End: 22:53	Cloudy with a light breeze, 16°C

Surveyors and infra-red (IR) cameras were positioned to ensure comprehensive coverage of all potential bat access and egress points **Figure 3**.

Figure 3: Surveyor Positions



¹ Collins, J.(ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust, London.

The surveyors were equipped with Batlogger M. full spectrum bat detectors for data collection, recording details such as time, location, number, species (where identifiable), and flight direction for each encountered bat emergence or pass, defined as a discrete burst of echolocation heard or observed bat activity during the survey.

Sound files from the Batloggers were analysed using Kaleidoscope Pro software and identified to species level (where possible) following the call parameters outlined in Russ (2013)². Calls from the automated analysis were subject to QA by experienced ecologists and any sound files that returned a “No ID” status from the software were reviewed and identified to species (where possible).

The footage from each Infrared camera was reviewed to confirm sightings by surveyors and/or identify anything that may have been undetected by or not visible to the surveyors. The surveyors and IR cameras’ positions are shown in **Figure 3**.

2.2.2 Results - Emergence

Upon the review of the IR footage, evidence of emergence and re-entry to the barn was observed by surveyor 3, a bat was seen to emerge and re-enter the barn via an open hay loft door, the time of the emergence and re-entries are shown in **Table 2**. From the behaviour of the bat and audio recordings the bat was identified to be brown long eared bat (*Plecotus auritus*) after the final emergence at 22.31 the bat was observed foraging along the north wall of the barn under the structure of the metal framed barn until the end of the survey at 22.53.

Table 2: Results of IR Footage Review with Times and Location of Emergence and/or Re-Entry

Surveyor	Emergence/Re-entry	Time	Location
1	No observations	-	-
2	No observations	-	-
3	Emergence & Re-entry	E 21.30, R 22.26, E/R 22.30, E22.31	Emerged and re-entered through open hay loft door on Northern wall of barn
4	No observations	-	-

2.2.3 Results – Activity

The number of recordings of each bat species identified and surveyor that recorded each bat/pass during the survey is shown in **Table 3**, below.

Table 3: Number of Bat Species Detected/ Recorded during Emergence Survey on 13/05/2024.

Bat species	<i>Pipistrellus pipistrellus</i>	<i>Plecotus auritus</i> (BLE)	<i>Nyctalus noctula</i>
Surveyor 1	11	1	1
Surveyor 2	2	0	0

² Russ, J. 2013. British Bat Calls. A Guide to Species Identification. Pelagic Publications

Bat species	<i>Pipistrellus pipistrellus</i>	<i>Plecotus auritus</i> (BLE)	<i>Nyctalus noctula</i>
Surveyor 3	59	1	0
Surveyor 4	4	1	0
Total	76	3	1

A single brown long-eared bat (*Plecotus auritus*) (BLE) was observed emerging from the barn during the 13/05/2024 emergence survey and during a pre-emergence inspection of the building by a licenced ecologist a single dropping with characteristics of BLE droppings was identified in the western end of the upper level of the building.

During the emergence survey a bat that was not echolocating emerged from the upper level of the barn through the open hay loft door shown in **Photograph 2** and re-entered via the same access point. A bat, later re-emerged from the same access point and began foraging along the northern wall of the barn, within the metal barn structure and was observed through Night Vision Aids (NVA's) and an audio sample recorded that was later identified as BLE.

2.3 Evaluation

Although visits have been undertaken over different years, they also do show a suitable spread of months of survey and enable a degree of confidence in the roost classification. This evaluation considers the data gathered between 2021 and 2023 by Hillier Ecology Ltd and a subsequent site visit and emergence survey conducted by Three Shires on 16 January 2024 and 13 May 2024 respectively.

A brown long eared bat was seen to emerge from the barn during the 2024 surveys. This species had previously been recorded as emerging from roosting points in the barn.

Natterer's bats (*Myotis nattereri*) were not observed during the May 2024 emergence survey. However, this species has been observed emerging from the barn on surveys undertaken between the months of August and September. Therefore, this species may only be present on this site after dispersal from maternity sites in late July onwards.

Small numbers of common pipistrelle (*Pipistrellus pipistrellus*) have previously been recorded emerging from the barn and although not observed emerging during the May 2024 survey they were observed foraging along the north and west boundaries of the site.

The barn appears to provide summer day roosting for small numbers of common pipistrelle, Natterer's bat and brown long-eared bats.

While brown long-eared and common pipistrelle are widespread, Natterer's bats are less common in the county. The roost should be considered locally important for Natterers bat, but of site level value for brown long eared and common pipistrelle.

The works have the potential to impact the roosts in the following ways:

- Kill or injure bats
- Destroy or damage a roost
- Prevent access to a roost
- Cause disturbance to bats while occupying roosts.

3. Mitigation Strategy

3.1 Compensation for Lost Roosts

Bat boxes, providing a suitable range and variety of conditions for roosting will be installed in the surrounding area.

Six bat boxes will be installed in total (two for each species roost lost). Four appropriate bat boxes should be located on mature trees situated to the north of the barn, along with two bat boxes affixed into the brickwork of the eastern gable end of the new building and the north western side of the barn.

Tree bat boxes will be of the following type:

- 2 x Schwegler 2FN
- 1 x Schwegler 1FD
- 1 x Schwegler 1FS

Building bat boxes will be:

- 2 x Schwegler 2FF on the restored building.

Suitable trees for bat box installation should be native broadleaf species including ash (*Fraxinus excelsior*), silver birch (*Betula pendula*), English oak (*Quercus robur*), and beech (*Fagus sylvatica*) with no signs of rot or damage. Conifers, pine, and non-native species should be avoided.

- Trees selected for bat box installation should be on land where they can be retained and monitored.
- Bat boxes are to be mounted where they are sheltered from strong winds and not in exposed areas, and facing south or west.
- Bat boxes are not to be mounted on ivy clad trees or in dense undergrowth i.e., on a standard tree in a hedge line at the same height as the hedge.
- Bat boxes are to be placed a minimum of 30m away from any light source or source of possible disturbance i.e., a main road or railway line.
- The trunk size of the chosen tree should exceed the width of the bat box being installed.
- The base of the bat box should be mounted at a minimum height of 4m from the base of the tree.
- The area directly beneath the entrance to the bat box needs to be clear of obstructions, small branches may need to be removed to achieve this.
- The nail supplied for hanging smaller boxes should be angled upwards at 45 degrees and only driven into the tree halfway.
- The base of the bat box must also be secured to the tree.
- Bat boxes to be installed on or within the walls of buildings, they should be near a gable end close to the eaves. The box should be a minimum height of 4m above ground, preferably around 4.5m, with the bottom part positioned at 4m.

Positions of bat boxes to be installed on trees will be confirmed upon installation by an experienced ecologist in accordance with the above.

All boxes on trees must be installed at least 3 months before works to the roof are undertaken.

Specific trees have not been identified for bat box installation to allow flexibility for the ecologist to assess the suitability of trees on site at point of installation.

Bat boxes must be checked annually to ensure they remain in place with biannual monitoring by a suitably licensed ecologist to check for use and continued suitability for purpose.

3.2 Timing of Works

No works are to be undertaken until a protected species licence for the destruction of bat roost has been obtained from Natural England and bat boxes have been installed on trees.

All works should be undertaken with suitably qualified/experienced ecologist supervision on site with the higher risk areas for encountering bats being the primary focus for inspection/supervised demolition (in so far as is reasonably possible in terms of access and safety constraints)

Precautionary approaches should be focussed upon areas where there is a higher risk of encountering roosting bats. Typical soft strip methods can be found in the following soft demolition section'. These methods will likely need to be adapted and applied as appropriate for the buildings present.

Although there is no evidence to suggest either maternity or hibernation roosts are present on this site, but best practice should be followed to avoid these times. To minimise the risk of disrupting bats during their most vulnerable hibernation phase, it is recommended to avoid renovation/construction activities when nighttime temperatures fall below 5°C.

Roofing removal repair works should be undertaken in suitable weather conditions between March and October

3.3 Toolbox Talk

Any site manager should receive a copy of this mitigation strategy and any future documents in relation to the development, and briefings must be conducted for staff at significant stages of the project.

A suitably experienced ecologist will conduct a toolbox talk for the relevant personnel, covering a briefing on potential bat habitats within the Site and an explanation of how demolition in those areas will address this risk, incorporating the outlined measures below.

3.4 Soft Stripping Technique

Soft stripping methods are required to be employed for works to the roof and upper wall structures and should always be undertaken by, or under the direct supervision of a suitably experienced ecologist.

Soft stripping involves the selective removal of non-structural components from a building. This method entails the removal of tiles, cladding, fixtures, and surface finishes. Employing this technique provides safeguards for any bats that may be present in roosts during removal or features.

Prior to removing areas likely to provide roosting opportunities for bats the roof may be partially removed to reduce the suitability of the roof void for bat roosting by allowing light into the space and creating unstable conditions with draughts and damp.

Areas of tiles close to, but away from, ridge and edge tiles, any soffit boxes and internal beams may be removed by hand, by lifting upwards carefully to expose the void beneath. Particular care should be taken in lined areas, with any underfelt checked for bats or evidence of bats before being removed.

Following this all features identified by the ecologist as potential bat roosts will be dismantled by hand, ensuring the secure removal of bats from the development area. Any bats discovered during this process will be safely relocated to a preinstalled bat box.

Where possible, all features should be checked visually and also using an endoscope before removal of materials.

Soffits and Fascias

- Prior to removal place something underneath the soffit area. This is in case a bat is attached to this section and so allows it to drop from a minimal height.
- Start from the boxed ends first.
- Use hand tools only to carefully remove the vented/bottom part of the soffit.

Interlocking Pan Tiles and Ridge Tiles

- Start on the ridge tiles and work down towards the guttering/soffits.
- Use suitable hands tools only to slowly lift the tile up and away from the roof. Take care when lifting ridge tiles as they are significantly heavier than standard tiles – two people may be required if there is a high risk of harming bats. Also check the area around the ridge beams.
- Turn the tile over and check there are no bats hanging on.
- If the removed tile exposes the roof void, continue with the next tile.
- If there is a layer of underfelt, or similar, check the area underneath the tile in case any bats are hanging onto the underfelt.
- Check the timber laths after removing the tile(s) in case bats are hidden in the gaps. A tool may be required to remove nails if tiles are fastened onto the laths.
- Lead flashing around chimneys
- Use hand tools only to carefully remove the lead flashing.
- Check underneath and around the chimney area in case bats are situated in small gaps.

Other Areas

- Care needs to be taken where two or more materials join and gaps, large enough for bats, could be present. These areas could be located at the chimneys and valleys.
- Bricks with missing mortar will need to be carefully removed, ideally layer by layer.
- Doorways, hatches and windows

3.5 Lighting

The utilisation of intense artificial lighting during nighttime works may deter bats and disrupt their foraging and commuting patterns. Therefore, any lighting required during or after the development must be kept to a minimum and be directional away from the building, and any tree lines, areas with dense vegetation, water bodies, and/or bat boxes.

Any artificial lights, used should be of a “warm white” colour as to avoid light that is more to the blue range of the colour spectrum and also of the lowest lux possible to deliver the requirement.