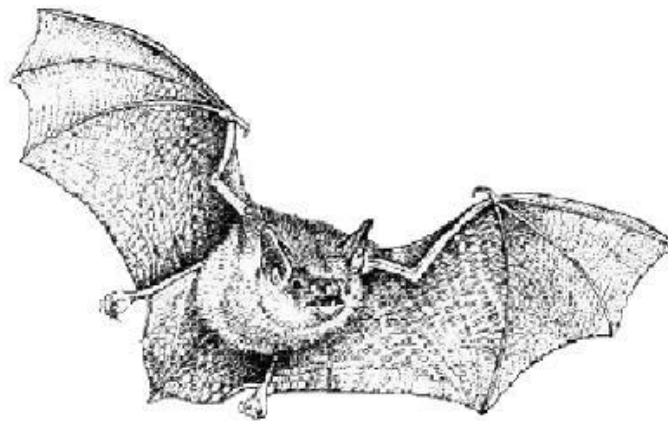


**Top 'OTh Brow,
Two Brooks Lane, Hawkshaw, Bury,
Greater Manchester.
BL8 4LA**

**Survey & Assessment in Respect of Bat Species
and Nesting Birds (including Barn Owl).**

**Surveyor- Mike Fisher
(Bat Survey Licence Level 2 Class Survey Licence WML CL18)
(Bat Roost Visitor Level 1 Class Survey Licence WML CL15)**



Echo Calls Bat Surveys

14th September 2021

1. Introduction.

1.1 Reason for Survey.

As part of the process to obtain planning permission to develop the site, a daytime evidence and opportunity bat survey, a separate evening bat emergence survey, and a post nesting bird survey (including barn owl), were requested, on all the targeted buildings, and any trees, shrubs, and hedgerows within the site boundaries. The purpose of these surveys was to provide evidence on habitats, and protected species, within the site boundaries, as part of the Local Development Framework (UDP Policy EN9), and to establish whether conditions within the site had changed since previous surveys undertaken by Echo Calls Bat Surveys on 2nd September 2019, 8th September 2019, 15th September 2019, and 13th September 2020, and also, to establish whether there was any evidence of any new bat activity, or indications of new bat roost(s) being set up.

1.2 Aims.

The aims of this ecological assessment were to:

- To provide clear advice to the client, and the Local Planning Authority, on the nature conservation value of the site, and surrounding area.
- To assess the site for the presence, or potential of protected species, within the proposed development site.
- To enable the client to comply with legislation afforded to protected sites and species.
- To highlight the presence of any habitats or species of ecological importance, including Habitats and Species of Principal Importance (NERC Act, 2006).
- To identify any ecological constraints, on future development.
- To establish the need for any further surveys and assessments.
- To make nature conservation recommendations.

1.3 The Site.

The site consisted of a large, detached dwelling and a separate detached barn, both positioned centrally, close to the site's northern boundary. There was also a separate garage positioned to the south-east of the two targeted buildings, but as this was not included in the planning application, it was not surveyed at this time. However, all were located within a large plot of land, which was positioned at the end of a long drive connecting the site to Two Brooks Lane to the north-east, in the Hawkshaw area of Bury, in Greater Manchester. The land and buildings from now on are referred to as the "site" at OS grid reference: SD 75787 14832, (refer to **Fig 1 - The Site Location**).

1.4 The Buildings.

There was a large dwelling and a separate barn situated amongst other buildings within a large area of land.

1.5 Surrounding Land.

The targeted buildings were positioned centrally within the site, close to the northern boundary, with an area of woodland spreading to the north, until it reached the banks of a large tree-lined lodge of open water. Beyond the lodge further north, were numerous dwellings, most of which had gardens containing some mature trees and shrubs.

There was a further area of woodland to the east of the site, with a series of tennis courts belonging to Hawkshaw Tennis Club, further east across Two Brooks Lane, and with areas of open pasture beyond. This area of woodland also extended to the south-east, and contained both mature and

immature trees, shrubs, and with a bramble understory, and also contained several lodges of open water, the first two were to the south-east, one 0.17km away, whilst the second was 0.25 km away at its nearest point. Two more lay further to the south-east, the first at 0.44km, the second at 0.50 km, and all of these had tree-lined banks. Whilst to the south and west of the site were large areas of open pasture, bordered by lengths of fragmented hedgerow, and some farm buildings positioned around 0.3km to south-west.

Also, there were a few drainage ditches and small streams in the surrounding area, as well as the Wales Reservoir complex 0.69 km away at its nearest point, and lines of mature woodland positioned some distance away from the site to the north-west but other than the above-mentioned habitats, there were no other large areas of woodland, or large bodies of water, in the nearby vicinity, (refer to **Fig 1 – The Site Location**, **Fig 2 – Google Plan**, **Fig 3 – Main Plan**, **Fig 4 – Plan of Photographs**, and **Fig 5 – Plan of Survey Results**).

2. Methods

2.1 Risk Assessment, Possible Hazards.

The required access to the site was relatively easy, and the perimeter of both targeted buildings could be searched with ease. Although the barn was in a deteriorating state of repair, both the barn and the dwelling interiors, could be easily searched, and there were no more hazards, other than those normally associated with surveying both the inside and outside of these types of buildings.

2.2 Methodology of Bat Surveys

A number of factors are used for the survey methodology, which include:

- Knowledge of bat species relevant to the site location, and geographical range.
- Nature of the immediate, and surrounding habitat, in relation to foraging opportunity.
- Condition of trees, shrubs, and any water bodies.
- Presence/absence of roost potential.
- Value of roost potential – if present.

2.3 Daylight Evidence and Opportunity Survey.

The daylight evidence and opportunity survey took place on 3rd September 2021, and was carried out in order to assess the site, and search for evidence of bat occupation (including recent and historic use), and to note any changes in the buildings or the overall site.

It comprised a search for bats, bat droppings, urine stains, remains of invertebrate prey, grease marks from repeated contact, or passage through narrow roost accesses, or against surfaces, and any other signs of bat occupation, and at the same time looking for evidence of nesting birds, active nests and feathers.

Areas within the targeted buildings searched were:

- Inside the buildings, in roof voids, on floors, roof trusses, storage tanks, door lintels, window ledges, or on pieces of furniture or equipment, also in spider's webs and other places where droppings or prey remains may collect. Also noting any noises such as scratching and squeaking, which may be made by roosting bats.
- Outside, the eaves and walls for signs of potential bat access holes, also the ground, windowsills, and any other surfaces, such as refuse bins or outside furniture, which may occur underneath the eaves, and around the perimeter of the building, any of which may catch bat droppings.

The optimum time to investigate buildings for evidence of a bat roost, is between May and September, however, this can sometimes be earlier or later in the year, and is weather and temperature dependant.

Evidence and opportunity inspections and assessments may be conducted outside of this time, and can often provide conclusive results, which can save expense and time for Planning Applicants.

The habitats and any trees surrounding the site, were assessed for their suitability for use by foraging and commuting bats.

All evidence of current or previous nesting bird species observed during the survey, was recorded (including barn owl).

2.4 Equipment

Equipment used consisted of ladders, an endoscope, camera, close-focus binoculars, and powerful hand-held torches.

2.5 Evening Bat Emergence Survey

A single evening bat emergence survey was carried out on 3rd September 2021, to assess the site further, by observing how bats utilise the site, and do they use the site similarly to how they did during previous surveys, also to observe if any bats emerged from possible roosts within the any part of any of the buildings, within the overall perimeter of the site.

2.6 Equipment

The equipment used during the survey, consisted of close-focus binoculars, powerful hand-held torches, an Echo Meter Touch 2 real-time expansion detector for Android, and a Bat Box 3D heterodyne bat detector with earphones.

3. Results

3.1 Daylight Survey

3.1.1 Weather

The weather conditions at the start of the survey on 3rd September 2021 were good. There was some cloud and a gentle breeze, (Beaufort Scale 2/3), and with a temperature taken at the start of the survey of 16°C, and such conditions were still suitable for a survey of this type.

3.2 Possible Roost Sites

3.2.1 The Buildings

The House

The house was located centrally within the site close to the northern boundary, and it was a tall two-story building constructed from stone, with both the northern and southern elevations being covered in a white render coating. It had a pitched roof of underlined slate containing two rectangular roof lights positioned in the southern pitch. Internally however, the majority of the first floor ceiling followed the contour of the roof, leaving only two small triangular roof voids to be searched. One was along the northern edge of the roof and the second was along the southern edge of the roof, and both were insulated and well-sealed. The house, its gables, roof, soffits and render coating, were all in good condition, and in the other elevations, the stones appeared to be well-pointed, (refer to **figs 3 and 4** and **photos 1 to 5, and 8 to 12**).

There were potential bat access points however and these were:

- The eastern elevation was partially covered in a mat of climbing plants, and these can be considered to have a low, but significant, bat roost potential. Where possible, the plant network was carefully searched, but there were no bat droppings found, or any other signs to suggest that bats use any part of the plants for roosting purposes, nor were any signs of bird nesting observed anywhere within the plant, (refer to **figs 4 and 5** and **photos 1, 2, and 9 to 12**).
- There were several roof vents positioned in the southern pitch of the roof, but close inspection of these using close-focus binoculars, found them to be internally covered in mesh, and therefore offered negligible bat roosting potential, (refer to **figs 4 and 5** and **photo 2**).

The Southern Extension.

There was a single-story extension attached both internally and externally along the entire southern elevation, and this had a sloping roof covered in slate and no roof void. The extension was also built from stone, and with its southern and western elevations being covered in white render. The extension and its roof also appeared to be in a good, well maintained overall condition, (refer to **figs 4 and 5** and **photos 1 to 3 and 12**).

There were potential bat access points however and these were:

- There was a small gap behind the soffit at the south-eastern corner of the extension, however a close inspection of the interior of the gap using an endoscope, and a visible check of the wall and floor beneath it, found neither bat droppings, prey remains, urine staining, nor fur staining were found, and it was deemed therefore, that bats were not using the gap for roosting or access purpose, (refer to **figs 4 and 5** and **photo 1**).
- The eastern elevation of the extension was also partially covered in the same mat of climbing plants as the main part of the house, and where possible the mat was carefully searched, but again no bat droppings, urine stains or prey remains were found to suggest that bats use any part of the ivy for roosting purposes, (refer to **figs 4 and 5** and **photos 1 and 12**).

The Kitchen Extension

Attached centrally along the northern elevation of the dwelling, and connected to it internally was a small single-storied kitchen extension. This was built from unrendered stone, and had a sloping roof covered in slate, but with no searchable roof void. Like the rest of the house, the extension, and its roof, were in excellent condition, (refer to **figs 4 and 5** and **photos 5 to 9**).

The Barn

The barn ran in an east to west orientation, and was located to the west of the house in the north-western corner of the site. It was a rectangular single-storied, stone-built building, and as it was positioned on a slope, as a result, the western half of the building had a cellar beneath it, whilst the eastern half did not. The barn had an uninsulated pitched roof, with a southern pitch still covered in the original slate, however during recent times, the northern pitch of the roof had been worked on, resulting in it being covered in steel corrugated sheeting, but there was no roof void. The barn was split into two halves and both parts of the barn were currently used for storage, however the overall structure was still fairly sound and in reasonable condition, (refer to **figs 4 and 5** and **photos 15 to 24**).

Inspection of both parts of the barn and its cellar, found them to be unheated, with interiors that were damp, draughty, and cold, and therefore were both deemed unsuitable for breeding bats. It was also concluded that as frost and bad weather were likely to penetrate the interiors, the barn would not offer the optimum humidity, and stable low temperatures that are suitable for hibernating bats. Therefore, the barn was assessed to have negligible potential overall to support daytime roosting bats, and assessed to have no potential for other use, (refer to **Appendix 2**).

There were potential bat access points however and these were:

- There was a gap beneath the soffit close to the eastern gable, also several holes in the eastern elevation walls, and further holes in the southern elevation. All of these were carefully searched using the endoscope, for signs of bat occupation. The walls and floors beneath these holes and gaps and opening were also searched, but as no evidence was found, they were all deemed to offer negligible potential for roosting bats, (refer to **figs 4 and 5** and **photos 16 and 17**).
- There was no glass in the window frames in both the southern and northern elevations, and also, there was no actual door in the doorframe within the western elevation, all of which resulted in openings large enough to allow both birds and bats to enter both the cellar and the barn interior. All the areas around these openings, both internally and externally, were searched, as was the interior of all parts of the building, but neither bat droppings, staining, prey remains, nor bats themselves were found. It was also thought that copious amounts of daylight would enter the building through these openings, thus further reducing internal roosting potential. The search also found no sign to suggest that birds had used any part of the barn for nesting purposes, (refer to **figs 4 and 5**, and **photos 15 to 19 and 21**).

During the current survey, no evidence of bats was detected in, on, or around, any part of any of the buildings on site, either internally or externally. Nor was there any evidence of previous use by roosting bats detected anywhere within the site.

No evidence was found to suggest that the buildings were being used by any nesting or roosting birds. Nor was any evidence of barn owl use observed.

3.2.2 Trees and Shrubs.

Both the northern and western boundaries of the site were formed by the edge of the nearby woodland, and this consisted of tall mature trees and shrubs and with a bramble scrub understory, but after inspection, none were found to offer any bat roosting potential.

Elsewhere within the overall site there were a few small trees and shrubs, and lengths of low hedgerow around the garden and car parking area, but none of these had any bat roosting potential. Beyond the site were numerous mature trees, shrubs and areas of open scrub however, but as these were outside the site boundaries, these were not carefully inspected, however, they were all also judged to be Category 3 (of negligible value for roosting bats) in accordance with **Appendix 2**.

It was thought likely that some of these trees and shrubs could be used by nesting birds, during the nesting season, but at the time of the survey, although there was some bird activity in and around the site, no active nests were found.

3.2.3 Foraging Potential and Alternative Bat Roost Potential.

The site is in a mainly rural area, and the nearby habitat consisted of a mixture of open pasture and areas of woodland, and these can be beneficial to insect species. Also, there was a large lodge of open water to the north and several others lying at various distances away to the south-east, (paragraph 1.5), and these together with the buildings, offered linear features suitable for foraging

bats such as Common Pipistrelle (*Pipistrellus pipistrellus*), and possibly other bat species, to assist them when navigating and commuting, and to hunt along for their insect prey. The area overall, was therefore assessed to offer moderate to good potential value for foraging bats, primarily pipistrelle species, but it was thought that small numbers of other species could be present.

It was considered that other buildings, especially the dwellings to the north of the sites, could offer greater potential as bat roosts. Bats favour heated building whilst breeding.

3.3 Evening Emergence Survey.

An evening bat emergence survey was also carried out on 3rd September 2021, in order to further assess the site, and observe if any bats emerged from roosts within any part of any of the buildings within the site, or from any trees, hedgerows and shrubs, around the perimeter of the site, and also to observe how bats use the surrounding areas for both commuting and foraging, and to see if both the amount of bat activity and the behaviour of bats within the site, had changed since the previous surveys.

3.3.1 Weather.

The weather conditions at the start of the evening emergence survey on 3rd September 2021 were good. There was some cloud cover and a gentle breeze, (Beaufort Scale 2/3), and with a temperature taken at the start of the survey of 15°C. Such conditions were good for a survey of this type.

3.3.2 The Survey.

The sunset on the 3rd September 2021 was 19.53 hrs, and the survey started 16 minutes before the sunset at 19.37 hrs, and ended when it was too dark to observe the bats well.

The first bat recorded at 20.04 hrs, was a common pipistrelle (*Pipistrellus pipistrellus*), heard but not seen over the trees along the western edge of the site, (refer to **pink arrow 1** on **fig 5**).

At 20.05 hrs a pipistrelle was observed commuting from the west of the site, flying over the garden to the west of the dwelling, before exiting the site in a south-easterly direction. It was thought that this was the same bat observed earlier, (refer to **pink arrow 2** on **fig 5**).

Beginning at 20.08 hrs, a pipistrelle began to forage over the trees and the north-western corner of the barn. This behaviour was observed intermittently during the survey, and frequent foraging buzzes were heard, (refer to **pink arrow 3** on **fig 5**).

Shortly afterwards at 20.10 hrs, a pipistrelle was observed foraging over the hedgerow and shrubs along the western edge of the car parking area, to the south-west of the dwelling, and this was joined from 20.13 hrs by a second bat. Both of these bats foraged successfully during the survey, (refer to **pink arrows 4** and **5** on **fig 5**).

A pipistrelle was seen commuting from the south-east of the area, flying in a north-westerly direction towards the treeline along the site's north-eastern boundary at 20.14 hrs, whilst from 20.17 hrs a bat was seen foraging over the area to the north-east of the dwelling and the trees, and it was thought that this was two sitings of the same bat. This foraging behaviour continued until the survey ended, and during which time numerous feeding buzzes were heard, (refer to **pink arrows 6** and **7** on **fig 5**).

At 20.19 hrs a pipistrelle was heard but not seen amongst the trees to the north of the site, and although numerous feeding buzzes were heard, at no time was the bat actually seen, (refer to **pink arrow 8** on **fig 5**).

No other bat activity was observed, and at no time were bats seen to have emerged from any of the buildings on site, nor from any of the trees and shrubs along the borders of the site.

Although there was some bird activity during the survey, none were seen exhibiting any type of nesting behaviour.

During the survey of the site, no owl pellets, faecal splashes, feathers, or prey remains were found to suggest that any of the buildings were currently being used by barn owls.

4. Conclusions.

4.1 In summary, during the current surveys, (3rd September 2021), nor during the previous surveys undertaken by Echo Calls Bat Surveys on either 2nd September 2019, 8th September 2019, 15th September 2019, or on 13th September 2020, neither current, or historic evidence of roosting bats was found in any part of either targeted building, nor in any of the shrubs or trees located within and around the site.

4.2 The dwelling was fully occupied, heated and insulated, and was in excellent condition, being well-maintained and with well-sealed, roof, soffits and gables. resulting in negligible bat roosting potential, (Refer to **Appendix 2**).

4.3 The barn had only been used in recent years for storage, but was damp and cold, and was therefore deemed unsuitable for breeding bats. It was also concluded that the barn did not offer the optimum humidity, and stable low temperatures that are suitable for hibernating bats. As such therefore, the barn was assessed to have negligible potential to support roosting bats, and assessed to have little potential for other use, (Refer to **Appendix 2**).

4.4 None of the nearby trees or shrubs both within the site, and along the boundaries, offered any suitable roosting opportunities for bats, of any species, and therefore, were concluded to offer negligible potential as possible bat roosts, (refer to **Appendix 3**).

4.5 The adjacent habitats had the potential to support low to moderate numbers of foraging common pipistrelles, but large numbers of other species of bats was unlikely. It is concluded that since there is currently no evidence of the presence of bat roosts within any part of the site, that the proposed modifications to the dwelling, and barn and the demolition of the two extensions, will not have significant implications on the population status of local bat species. There will not be requirement for an EPS mitigation licence (as issued by Natural England) but as a measure of best-practice, precautionary measures should be applied as described in section 5 below.

4.6 It was also concluded that since no evidence of roosting bats, or evidence of either recent or historic bat occupation had been found during the current surveys carried out on 3th September 2021, nor during the previous surveys undertaken by Echo Calls Bat Surveys on 2nd September 2019, 8th September 2019, 15th September 2019, or on 13th September 2020, then a single visit to the site to carry out a daylight evidence and opportunity bat survey, and a single evening bat emergence survey, were considered sufficient to assess the site, (refer to the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (BCT 2016), paragraph 8.3.4).

4.7 Since bats, particularly pipistrelles, are opportunistic, an absence of current roost evidence elsewhere within the site, does not preclude the low possibility of small numbers of bats, using the site occasionally in the future and/or at other times of year. It is considered that the likelihood of a significant roost (such as a maternity roost) being established is very unlikely, with lone and/or transient roosting likelihood being negligible.

4.8 It was understood that there may be some site clearance work carried out during the planned development, but that this will be kept to a minimum, and that the boundary hedgerows, and trees and shrubs around the site will be unaffected by the work. Also the planned development

does not drastically alter the footprints of the buildings within the site, and, as bats use linear features such as lines of trees or walls, as foraging, navigating and commuting routes, it was concluded that any small loss of the habitats, and any future development works on the site, would not affect the overall foraging or commuting potential for bats in the area.

4.10 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) while they are breeding. There was potential for the trees, hedgerows and shrubbery within the sites' perimeter, to be used by birds for both roosting and nesting purposes, but no active nests were found during the survey, and it was also surmised that due to the time of year, most birds will have ceased to breed, (Refer to **Appendix 1**).

4.11 Although the surrounding habitat of open pastures, lines of mature trees and hedgerows offered good foraging potential for barn owl, the targeted buildings on site offered negligible breeding or roosting potential. Also, as the overall site was in constant use, any roosting behaviour would be limited due to disturbance. As no evidence of roosting barn owls was observed in any part of the site, it was concluded that barn owls do not use the site, either as a regular nesting roost, or as a breeding roost, (Refer to **Appendix 1**).

5. Recommendations.

5.1 The proposed changes to the site as laid out in the planning application, can commence with minimal risk to roosting bats or nesting birds.

5.2 The aim of any mitigation is to ensure that any work is carried out in a manner that avoids harm, or significant disturbance to bats, also, to create new enhanced roosting opportunities for bats, both during and after the development. However, a key issue in successful mitigation measures, is the scheduled timing of the works. Ideally, the buildings, (not considered suitable for hibernation), especially the roofs, should be worked on in winter to avoid the possibility of bats moving in and using the buildings as a spring, summer or autumn roost after the survey. The safest period will be from the first hard frosts, normally mid-December, until mid-March, although this could be earlier in a warm spring or later in a cold spring.

5.3 However, even if the dwelling and barn are worked on at other times, it will be very unlikely that roosting bats will be disturbed. However, it is recommended that work starts as soon as possible after this survey, and that any ridge tiles, slates or sheeting over walls and gables, be carefully removed by hand under the supervision of a licenced bat worker, (the ridge and edge tiles, and copingstones, are the features most likely to harbour potential for the support of roosting bats). Should a roof require dismantling, then once the slates, sheeting and any insulation has been removed, the building should be left for two nights before work continues. This will permit any bats present in cracks in the brickwork at the top of a wall time to move off.

5.4 The construction of the proposed extension link between the barn and the dwelling, and its insertion into the dwelling wall, and also the demolition of both extensions and the rebuilding of the building walls, should also be done during the winter months. Again, the safest period would be from the first hard frosts, normally mid-December, until mid-March, although this could be earlier in a warm spring or later in a cold spring.

5.5 As a measure of best practice and in accord with a key principle of National Planning Policy Framework (2012), it is recommended that the re-development scheme for this site, incorporates biodiversity enhancement measures, and an appropriate measure will be the installation of bat boxes, or bat bricks. The latter can be incorporated within building walls at the gable ends, and the former can be attached to the new building, or to any surrounding suitable trees. In connection with the development proposals, it is recommended that these measures are implemented to maximise the opportunities for wildlife at the site, (refer to **Appendix 6** for details).

5.6 If more than 12 months' elapses between this survey, and any commencement of building work, then the surveys must be repeated. These need to be carried out under weather conditions suitable for normal bat activity, and when bats are fully active (May to September but is weather dependent).

5.7 As there was good potential for both roosting and nesting birds in the trees, shrubs and hedges around the site perimeter, it is recommended that the majority of nearby trees, hedgerows and shrubbery, where possible be left untouched, to encourage future nesting, and to maintain navigation, foraging and commuting routes for bats.

5.8 It must be remembered that it is an offence to disturb an active birds' nest. It is recommended that before any commencement of any tree or shrub clearance, and the new construction work, that a careful survey looking for any evidence of nesting birds, is carried out. If evidence of an active bird's nest is detected, then the nest must be left undisturbed, until it is appropriately confirmed that the young birds have fledged. It is recommended therefore, to reduce any nest disturbance, that no activity involving people or their equipment, it is to be carried out within a 3m radius of an active nest. If there is any doubt, please refer to the consultant. This guidance is applicable during the bird breeding season which typically extends from March to August inclusive.

5.9 It is also recommended that some wooden nest boxes are erected around amongst the shrubbery around the site. These will be a mixture of open fronted and hole fronted boxes, and are to be erected to mitigate for potential loss of nesting opportunities, during, and after the development, to encourage and enhance future colonisation and nesting by these species, (refer to **Appendix 7** for details).

5.10 It is recommended that after any shrub or hedgerow clearance, or piles of building materials, are disturbed, or removed, during the period of building works, that this activity should be undertaken outside the hedgehog hibernating months, November to mid-March. If this is not possible, then a suitably experienced ecologist must be present to oversee all vegetation removal, to ensure that no hedgehogs (*Erinaceus europaeus*) are disturbed whilst hibernating (Hedgehogs are a UK BAP Priority species).

5.11 It is also recommended that a single Eco-plate Hedgehog Box should be positioned in the site, in an appropriate location, to maximise the opportunities for hedgehog within the site, (refer to **Appendix 8** for details).

5.12 No hole or pit should be left uncovered over-night, to ensure that wildlife such as amphibians or hedgehogs are not trapped, and unable to escape. Alternatively, a broad wooden plank or similar can be placed in the excavation to allow animals to escape. A scaffolding board pitched at a maximum 45° angle would be ideal. Additionally, any pipework left on site that is greater than 150mm in diameter should to be planked off.

5.13 During the development, all excavations, and piles of pipework and similar, should be checked first thing each morning, prior to the start of works that day. Any animals found during these inspections, should be allowed to escape and move off, or be carefully removed and placed within suitable habitat cover, before site works commence for the day.

5.14 Close boarded fences with concrete bases are barriers to animal movement, and It is recommended, that any new perimeter fences along the boundaries are not to be sealed at their bases. Where possible, hedgerows are to be used instead, with timber post and wire fencing also serving to enforce boundary lines, without prohibiting wildlife movements. If any boarded fences are required, it is recommended that there is a 3 – 5cm gap between the wood and the ground, (greater in some locations and less in others is not a problem) so that wildlife such as hedgehog and amphibians can pass into and out of the garden.

5.15 Outdoor lighting is typically a deterrent to wildlife, especially bats and nesting birds, it is therefore recommended, that any future outdoor lighting, installed during the proposed development, be screened, hooded or positioned low at bollard level so that it does not illuminate the roof or eaves, or nearby trees and shrubs.

5.16 To enhance the site's value for wildlife, it is recommended that tree planting is planned as part of the development, and that the trees used are all British native trees as far as is possible. These trees are more likely to attract insects and are therefore beneficial to foraging bats and other wildlife. Suitable species include: Hawthorn, Rowan, Wild Cherry, Guelder Rose and Crab Apple. These have been chosen for their attractive blossom and fruits. Oak, Ash and Willow species are recommended away from buildings and drains.

5.1 It should be remembered that bats are occasionally found in the most unexpected places. If any bats are found during unsupervised work, work must be stopped immediately, and either the consultant (077450268815), the local bat group (South Lancashire, 0161 764 8850), the Bat Conservation Trust (0345 1300 228), or Natural England (01270 754 00, should be notified, (refer to **Appendix 5** for details). **Failure to do so would be a criminal offence.**

6. Survey Constraints

Surveying for bats at a specific season of the year, does not provide information of use of the site by bats at other times of the year. The current survey was undertaken at the start of autumn, and reflects past bat activity, and whilst consideration may be given to roosting at other times, there may be no evidence for activities outside the survey period.

As bats can utilise very small cracks and crevices, it is not possible to completely discount their use of some of the trees and shrubs around the site, although the survey did not identify any evidence of use. Assessments can however be made of potential use from the survey findings collected, but it may not provide a full picture of site usage.

Small bat roosts and single roosting bats can easily be overlooked. They can be difficult to detect during inspection, as they leave few field signs which can easily be missed during surveys. External signs e.g. droppings, prey remains etc., are also subject to weather and rain, which can often remove the signs prior to an actual survey. This is particularly valid when inspecting trees and shrubs.

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Barn Owl Conservation Handbook: A Comprehensive Guide for Ecologists, Surveyors, Land Managers and Ornithologists (Conservation Handbooks) – The Barn Owl Trust (2012)

8. Surveyors Qualifications

The surveyor Mike Fisher is a holder of:

- Natural England Class Licence Registration Number: 2015-10595-CLS-CLS, this is the Bat Survey Level 2 Class Survey Licence WML CL18.
- Natural England Class Licence Registration Number: 2015-10592-CLS-CLS which is the Volunteer Bat Roost Visitor Level 1 Class Survey Licence WML CL15.
- The surveyor also has a licence to disturb and take bats for scientific, educational, or conservational purposes by Countryside Council for Wales (Licence Number S085859/1).

He was assisted on the survey by Dylan Platt and Lisa McLennan, both of whom are experienced in the use of heterodyne bat detectors and bat surveys.

9. Plans & Photographs

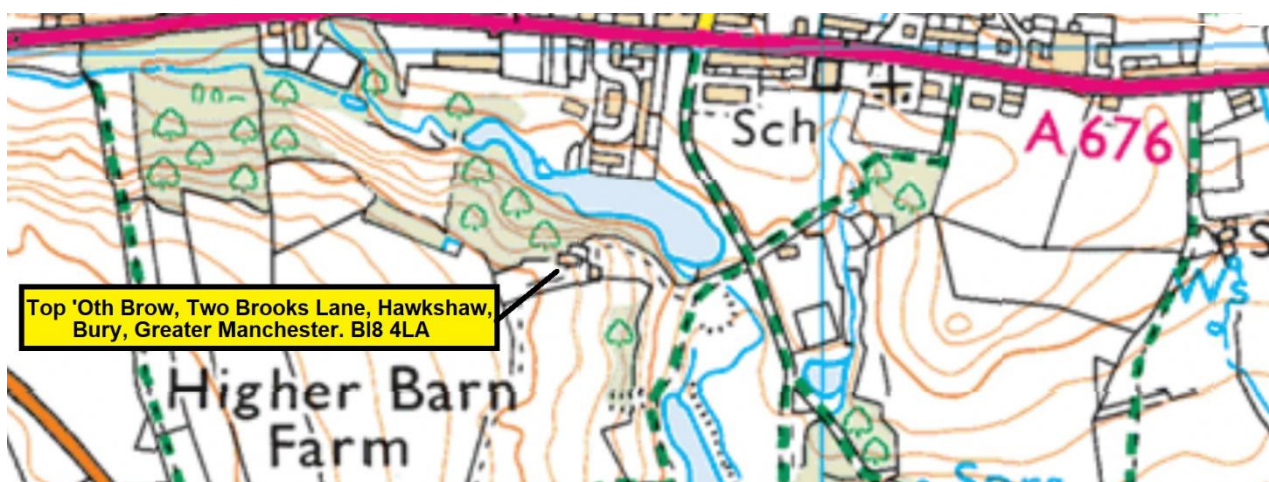


Fig 1 - The Site Location



Fig 2 – Google Plan

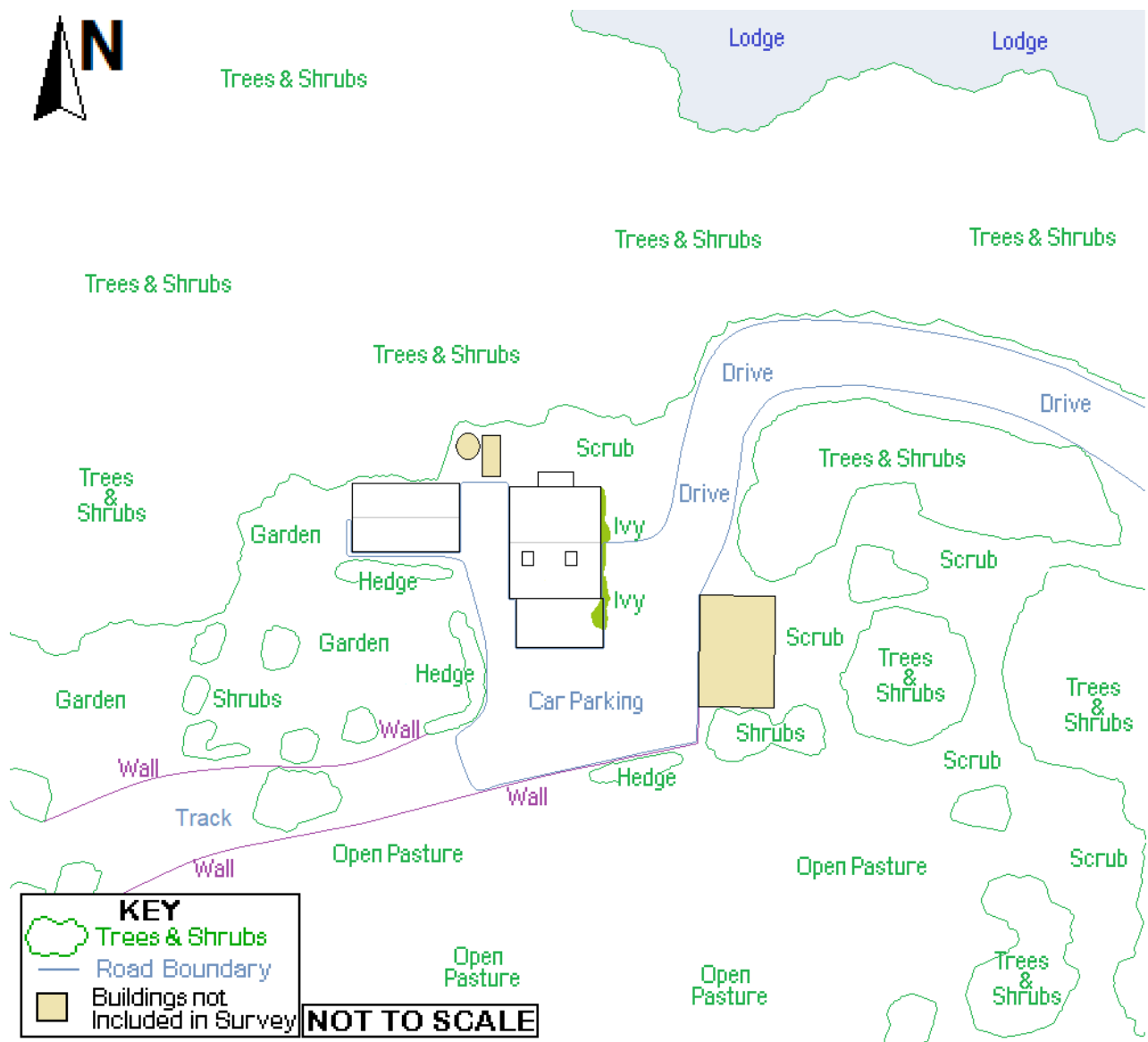


Fig 3 – Main Plan

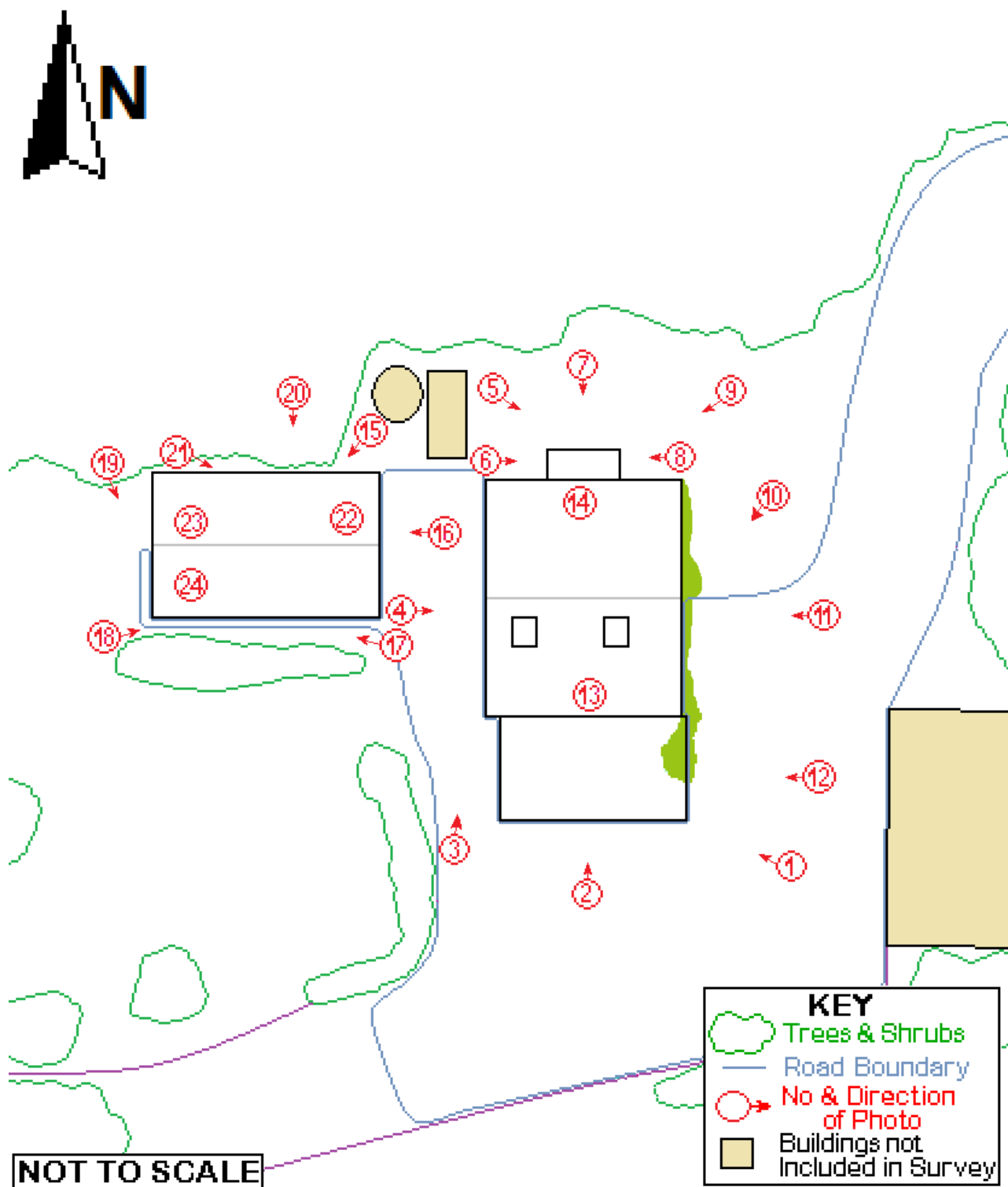


Fig 4 – Plan of Photo Results

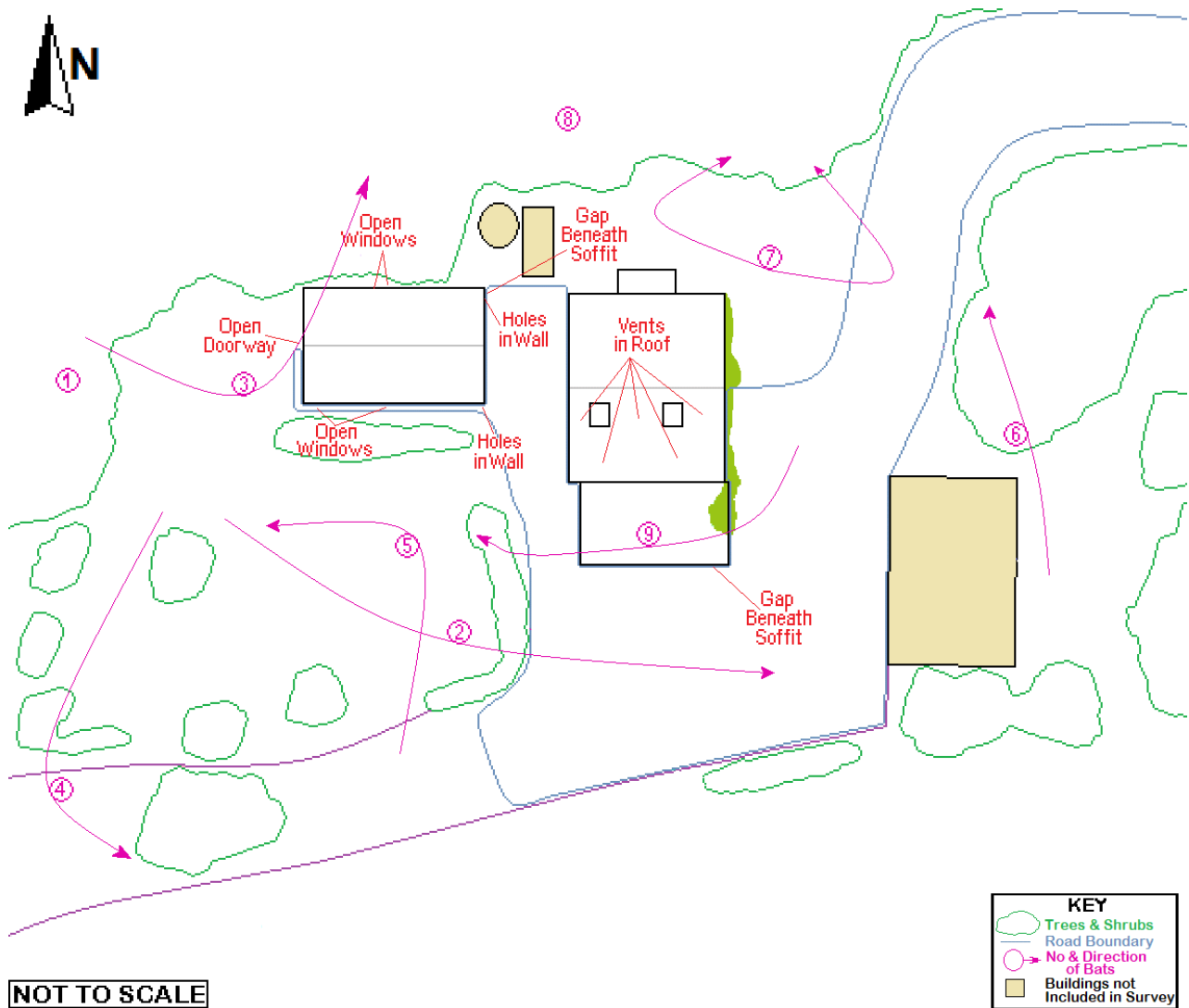


Fig 5 – Plan of Survey Results



PHOTO 1
South-eastern Corner of House & Elevation



PHOTO 2
Southern Elevation of House & Extension



PHOTO 3
South-western Elevation of Extension



PHOTO 4
Western Elevation of House



PHOTO 5
Western Elevation of House



PHOTO 6
North-western Corner of Kitchen Extension



PHOTO 7
Northern Elevation of Kitchen Extension



PHOTO 8
North-eastern Corner of Kitchen Extension



PHOTO 9
Northern Elevation of House



PHOTO 10
North-eastern Corner of House



PHOTO 11
Eastern Elevation of House



PHOTO 12
Eastern Elevation of Extension



PHOTO 13
Underside of Southern Roof



PHOTO 14
Underside of Northern Roof



PHOTO 15
North-eastern Corner of Barn



PHOTO 16
South-eastern Corner of Barn



PHOTO 17
Southern Elevation of Barn



PHOTO 18
South-western Corner of Barn



PHOTO 19
Western Elevation of Barn



PHOTO 20
Northern Elevation of Barn



PHOTO 21
View along Northern Elevation of Barn



PHOTO 22
Underside of Eastern Roof of Barn



PHOTO 23
Underside of Western Roof of Barn



PHOTO 24
Underside of Cellar Roof

14th September 2021
Mike Fisher, Bat Worker
Holder of Natural England Bat Roost Licence

Disclaimer.

All reasonable effort has been taken to ensure an accurate assessment of the birds and bats at this site. The absence of recorded presence or sign should not be taken as an absolute guarantee that a site is not being used by a particular species. There is also no guarantee that any particular species will not use the site at any time in the future. Survey results for both bird and bat activity may be weather or seasonally dependent. Any interpretation of legislation is based on our understanding and experience of the law. The relevant statutory authority can provide a more definitive interpretation.

This report has been prepared by Echo Calls Bat Surveys with all reasonable skill, care and diligence, within the terms of the Contract with the Client.

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APPENDIX 1: Synopsis of Relevant Legislation

Bats and the Law

In Britain, all bat species and their roosts are legally protected, by both domestic and international legislation.

This means you will be committing a criminal offence if you:

Deliberately capture, injure or kill a bat

Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats

Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time)

Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat

Intentionally or recklessly obstruct access to a bat roost.

Licensing

Licenses to permit illegal activities relating to bats and their roost sites can be issued for specific purposes and by specific licensing authorities in each country. These are sometimes called 'derogation licenses' or 'European Protected Species' licenses, and are issued under the Habitats Regulations. It is an offence not to comply with the terms and conditions of a derogation Licence. If you carry out work affecting bats or roosts without a Licence, you will be breaking the law.

Who needs to take particular note of the legislation?

Property owners/householders who have a bat roost in their property.

Woodland owners, arboriculturalists and foresters.

Pest controllers.

Planning officers & building surveyors

Architects, property developers, demolition companies, builders and roofers.

Which legislation is relevant for bats and roosts?

In England and Wales, the relevant legislation is the Wildlife and Countryside Act (1981) (as amended); the Countryside and Rights of Way Act, 2000; the Natural Environment and Rural Communities Act (NERC, 2006); and by the Conservation of Habitats and Species Regulations (2010).

In Scotland, the key legislation that applies is the Conservation (Natural Habitats &c.) Regulations 1994 (as amended).

In Northern Ireland bats are listed under Schedule 2 of the Conservation (Natural Habitats etc) Regulations (Northern Ireland) 1995 and in the Republic of Ireland, under Schedule 5 of the Wildlife Act 1976 and Schedule 1 of the European Communities (Natural Habitats) Regulations 1997.

Defences include:

Tending/caring for a bat solely for the purpose of restoring it to health and subsequent release

Mercy killing where there is no reasonable hope of recovery, (provided that person did not cause the injury in the first place - in which case the illegal act has already taken place).

Penalties on conviction –

People committing bat crimes can face six months' imprisonment and/or unlimited fines. Additionally, any profits made as a consequence of not following lawful process can be confiscated and items used to commit the offences such as vehicles, plant or machinery can be forfeited.

Under National Planning Policy Framework (2012), it is recommended that the re-development scheme for any site, protected species, such as bats should be a material consideration in planning applications. This has implications for bat foraging areas as well as their roosts.

The National Planning Policy Framework (NPPF) places a clear responsibility on Local Planning Authorities to conserve and enhance biodiversity and to encourage on the consideration that should be given to Protected Species where development may affect them.

The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation. This is supported by a guide to good practice entitled 'Planning for Biodiversity and Geological Conservation: Building in Biodiversity' in which paragraphs 5.34 and 5.35 identify that species such as bats are highly dependent upon built structures for survival and that roosts can be easily incorporated into existing and new developments/conversions to benefit these species.

Breeding Birds

All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended), whilst they are actively nesting or roosting. Section 1 of this Act, makes it an offence to kill, injure or take any wild bird, and to intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built. It is also an offence to take or destroy any wild bird eggs.

Barn Owl

Barn owls are listed on Schedule 1 of the *Wildlife and Countryside Act 1981* which gives them special protection.

It is an offence, with certain exceptions, to:

- Intentionally kill, injure, or take (handle) any wild barn owl;
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being 'built' (barn owls do not 'build' a nest but may make a nest scrape;
- Intentionally take or destroy a wild barn owl egg;
- Have in one's possession or control a wild barn owl (dead or alive), or egg, (unless one can show that it was obtained legally);
- Intentionally or recklessly disturb any wild barn owl whilst 'building' a nest or whilst in, on, or near a nest containing eggs or young;
- Intentionally or recklessly disturb any dependent young of wild barn owls.

APPENDIX 2: Bat Roost Potential

Guide to bat roost assessment categories in built structures based on Table 4.2 in the BCT Bat Survey good practice guidelines (Hundt, 2012).

Category Description	Indicators
Confirmed Roost	• Sighting/hearing of bats (including emergence). • Fresh or old droppings.
High potential to support bat roost(s)	• Numerous or high potential roosting features that are not exposed to the elements: crevices deeper than 100mm, width 15-70mm: • Un-obstructed flyways. • Low disturbance levels. • Situated within or near to woodland, parkland or next to water bodies, buildings (i.e. potential foraging and roosting habitat). • Well connected to wider landscape through presence of continuous linear features such as hedgerows, watercourses, farm-tracks etc.
Moderate potential to support bat roost(s)	Some of the above features but considered to be less suitable on account of age, location and disturbance levels.
Low potential to support bat roost(s)	• Limited suitable roosting features. • Exposed roosting features e.g. open to wind/rain. • High levels of regular disturbance e.g. from lighting. • Isolated from suitable foraging habitat & commuting features.
Negligible potential	No features with bat roost potential recorded

APPENDIX 3: Bat Tree Assessment Criteria

Criteria for Assessment of Trees in accordance with Category 1 to 3 as defined in Table 8.4 of *Bat Surveys: Good Practice Guidelines 2nd Edition* (Hundt, L. 2012).

CATEGORY	DESCRIPTION	CRITERIA
Known or Confirmed	Confirmed roost	Confirmed roost Evidence found that indicates tree/tree features are being used by bats. Droppings found at the base of the tree, below a cavity. Bats heard 'chattering' inside a feature on a warm day or at dusk Bat(s) observed flying from or to a feature.
1*	Very high value	Trees with multiple, highly suitable features capable of supporting larger roosts. Features of particular significance, suitable for high priority roosts such as maternity roosts, used by large numbers of bats, offering conditions that are uncommon or rare in the local area. Features such as large cavities, extensive branch or trunk splits, also including multiple features in the same tree that offer a diversity of opportunities. Features may also include dense ivy.
1	High value	Trees with definite bat potential supporting fewer suitable features than category 1* trees or with potential for use by single bats. Features which provide a more secure form of roost for small groups of bats and individuals, but may still be quite common types of feature, such as small cavities, minor splits or sparse ivy cover.
2	Moderate value	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats. A tree which on close inspection the potential roost positions are in some way not ideal. They could be upward facing or holes very low down or cluttered by adjacent branches.
3	Low/Negligible value	Trees that have no features which could be used by bats for roosting (Usually young trees).

APPENDIX 4: Planning Considerations

When considering each planning application, the presence of protected species, such as those listed above, is a material consideration which must be fully considered by the Local Authority when granting planning permission. If a licence from Natural England is required, then prior to issuing any planning consent, the local planning authority will need to be satisfied that there is no reason why such a licence would not be issued. Therefore, in reaching the planning decision the local planning authority will need to have regard to the requirements of the Conservation of habitats and Species Regulations 2010.

The three licensing tests given in the Regulations must be considered. In summary, these are that:

1. The development is required for the purpose of:
 - preserving public health or public safety,
 - for other imperative reasons of over-riding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.
 - for preventing serious damage to property.
2. There is no satisfactory alternative.
3. The proposal will not be detrimental to the maintenance of the population of the species at a favourable conservation status.

All necessary information would need to be provided to the planning authority as part of the planning application in order to address the above tests.

The Natural Environment and Communities Act (NERC Act) 2006 extended the biodiversity duty set out in the Countryside and Rights of Way (CROW) Act to public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity. The Duty is set out in Section 40 of the Act, and states that:

"Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity"

The Duty applies to all local authorities, community, parish and town councils, police, fire and health authorities and utility companies. Section 41 (S41) of this Act (the 'England Biodiversity List') also requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. This list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40(1) of the Act.

Also, Local Authorities must follow the National Planning Policy Framework (NPPF) which provides guidance on the interpretation of the law in relation to wildlife issues and development. For each development proposal considered by the Local Planning Authority the NPPF states that the authority must aim to conserve and enhance biodiversity. If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

APPENDIX 5: Bats: What to do should bats be found during construction or demolition.

All of the UK's bats and their roosts, are protected by law, (see Appendix 1), so it is important to understand these laws, if you are planning any building or remedial work that may affect or disturb a bat roost. The relevant statutory authority should be initially contacted for advice.

Having bats roosting within a building, does not necessarily mean that work cannot be carried out. What it does mean is that the work will need careful consideration, especially in terms of time and materials, so that the area can continue to be used by both bats and people. Therefore, the earlier in the process the bats are taken into account, the less disruption to building plans there will be.

If at any point during either new building work, renovation work, or demolition, one or more bats are found, then all work being undertaken by contractors should stop immediately. All working machinery and contractors should be removed from the area where the bats have been found, and advice sought immediately from one of the following, on how to proceed while causing minimal disturbance to bats.

Advice can either be provided by a professional licensed ecological consultant - Echo Calls Bat Surveys on 07745 268815, the Bat Conservation Trust on 0345 1300 228, or from your Statutory Nature Conservation Organisation (SNCO) , or from Natural England on 01270 754 000.

Depending on the advice given, a licensed bat worker, or suitably qualified Natural England approved representative, will then be sent to site to liaise with the site manager, and Natural England itself. Depending on the advice given, actions will be recommended that may include the safe removal of the bat by the nominated person, only where written or verbal permission has been gained by Natural England.

Works will recommence when Natural England are satisfied that the risk to bats has been removed. If, however, it is determined that the proposed work on site contains more risk to bats than was originally thought, then it is probable that further work will only proceed, under a Natural England Development Licence.

If a bat is found under a tile, slate, flashing or any other covering material, work must stop immediately. If the bat does not fly out immediately, then the area around the roost must be carefully covered over, to protect the bat from the elements and further disturbance, leaving a small gap for bats to escape voluntarily. At this point, advice must be sought as mentioned above. The materials used to cover the occupied bat roost, must be free from liquid, oil, grease and other contaminants.

It is recommended that the handling of bats be avoided wherever possible, but if it absolutely necessary, then to avoid a bat being harmed, gloves must be worn whilst handling the bat. It should be carefully caught, placed in a cardboard box with air holes in the lid, and a small container containing water. The box should then be kept in a very quiet, dark area, away from further disturbance, whilst awaiting the arrival of the licensed bat worker, or Natural England approved representative.

Failure to do any part of this could result in a criminal offence.

APPENDIX 6: Bats: Types of Bat Box and Bat Bricks.

The aim of any mitigation is to ensure that any work is carried out in a manner that avoids harm or significant disturbance to bats, and also to create new roosting opportunities for bats both during and after the development.

Schwegler 1FD boxes are to be erected to larger trees located along the edges of the site. This type of bat box is a “general all-rounder” and is suitable for all types of bats.

These boxes are to be erected as recommended by the Bat Conservation Trust guidelines which state that

- Ideally, erect the boxes facing so they face in different directions, to provide a range of temperature conditions. For example, boxes facing from south-east to south-west allow the sun to fall on each box for part of the day. During very hot days a south-facing box may overheat, but the other boxes should have some shade during the day.
- Bat boxes should be located close to a linear vegetation feature such as a tree line or hedgerow or to lines of buildings. Some bat species use these features for navigation between their roosting site and feeding ground and to avoid flying in open and exposed areas.
- Ensure that tree branches or other items will not impede the bats' approach to the box – clear away underneath the box so the bats can land easily before crawling into the box.
- Boxes should be erected at a height of approximately 4m above ground level



Schwegler 1FD Bat Box

This Schwegler 1FD bat box has been developed specifically for smaller bats. The interior and the type and size of the entrance hole match the requirements of smaller species. It features a special layout inside the domed roof, an increased interior height, and two grooved internal wooden front panels with precise spacing between them.

This model has proved highly effective as a nursing area.

Occupants: Small bats such as the Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Daubenton's Bat (*Myotis daubentonii*) and Common Long-eared bat (*Plecotus auritus*).

Bat Brick

Standard bricks to provide access for bats into roof or wall spaces.

With the increase in development of new building sites and redevelopment of older buildings, especially in rural areas, availability of roost sites for bat species is becoming more limited. However, bats can be encouraged to remain at old sites or colonise new sites by incorporating artificial roost spaces into the building during the build or renovation process.

The bat brick is a standard sized brick, shaped especially to allow bats to access the cavity of a house. They can be incorporated during both new build or renovation projects. (A cavity chamber may need to be constructed to maintain an area free of insulating material where bats can roost).

The bricks are available in three standard colours - Red, Golden and Brown.

Brick dimensions:

- * Height: 60 mm
- * Width: 215 mm
- * Depth: 100 mm
- * Entrance dimensions: approx. 110 x 25 mm

Brick codes:

- * Red - Ibstock A0610A (cheddar red)
- * Golden - Ibstock A0611A (cheddar golden)
- * Brown - Ibstock A0612A (cheddar brown)



APPENDIX 7: Nesting Birds: Mitigation and Compensation Measures.

Birds are declining throughout the country due to loss of roost and nesting places, and as the development may disturb nesting potential on the site, artificial nests are to be erected to compensate for this possible loss. The erection of artificial nests around the complex, will provide alternative sites for all three species of bird, and make a positive contribution to their conservation.

Making a nestbox suitable for robins and other box builders

What you need

Natural nest holes do not come in standard sizes, so use these dimensions only as a guide. Any plank or sheet of about 15 mm thick weatherproof timber is suitable. However, do not use CCA pressure-treated timber, since the leachates may harm birds. Cut each section as per our plan, which you can download by clicking on the link to the right.

Dimensions

The plan gives measurements for a small and a large box. Use only the first or the second figure throughout. For starlings and great spotted woodpeckers, use the dimensions for the large box; all the others need the small one.

The bottom of the entrance hole must be at least 125 mm from the floor of the nestbox. If it's less, young birds might fall out or be scooped out by a cat. The inside wall below the entrance hole should be rough to help the young birds to clamber up when it's time for them to leave.

Putting it together

Drill drainage holes to the base of the box, and use galvanised nails or screws to assemble. It's always best to leave the box untreated. As it weathers, it will blend into its surroundings. Softwood boxes can be treated with selected water-based preservatives, which are known to be safe for animals, such as Sadolin. Apply it only to the outside of the box, and not around the entrance hole. Make sure the box dries and airs thoroughly before you put it up.

A woodpecker box should be filled with a block of balsa wood, rotting log or wood chips – woodpeckers like to excavate their own nesting cavities.

Do not nail down the lid, since you will need to clean out the box in the autumn. Attach the lid with a brass or a plastic hinge that will not rust, or hinge it with a strip of leather or rubber (an old piece of bicycle inner tube will do). Fasten it down with a good catch.

How big does the hole need to be?

The entrance hole size depends on the species you hope to attract:

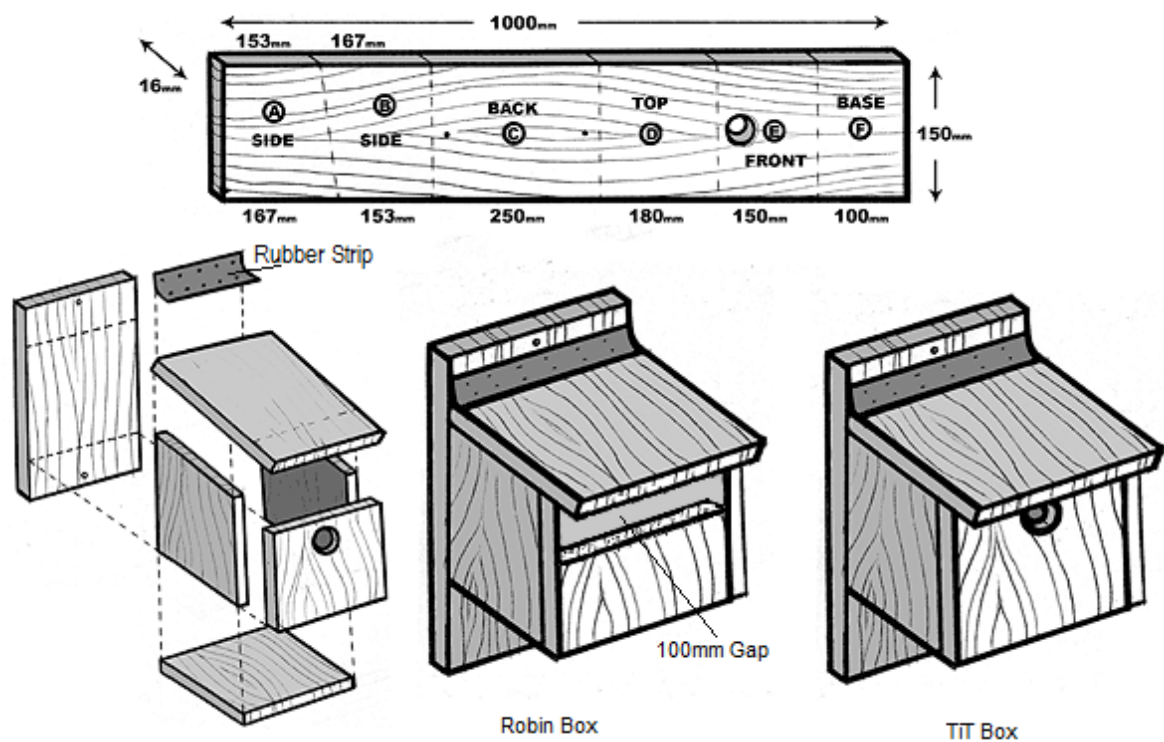
25 mm for blue, coal and marsh tits

28 mm for great tits, tree sparrows and pied flycatchers

32 mm for house sparrows and nuthatches

45 mm for starlings

The small box with 100 mm high open front may attract robins, or pied wagtails. A wren would need a 140 mm high front panel, while spotted flycatchers and blackbirds prefer a low 60 mm front to the box.



Eco-plate Hedgehog House



Eco-plate Hedgehog House



Specifications			
Width (cm)	Height (cm)	Length (cm)	Tunnel Length (cm)
60	35	46	36

Hedgehogs were once commonly seen in most UK gardens; now however a loss of hedgerows and agricultural intensification has resulted in a 30% reduction in populations in the last ten years. Hedgehogs are an important indicator species, and a decline in their numbers is often symptomatic of a far bigger problem with ecosystem health.

There are many ways that you can help support this species including providing them a home which is predator proof, secure home.

This hedgehog box was designed in collaboration with the Egelstichting (the Dutch Hedgehog protection society). This box is made of Eco-plate, a material similar in density to plywood, but produced from recycled car seats sourced from reputable suppliers, and grown from native stock.

This environmentally friendly material is weather resistant and very durable. The entrance tunnel is hidden inside the house to make it more difficult for predators to reach hedgehogs inside the house.

To make it habitable, part-fill the nest chamber with dried leaves. Place the box in a secluded corner and cover with soil or leaves to boost the chances of the box being used.

It would give a hedgehog daytime shelter between April and October, and will also allow them the space to hibernate during harsh winter months between November and mid-March.

The lid can be easily removed for cleaning, however, do not disturb the box while it is occupied.