

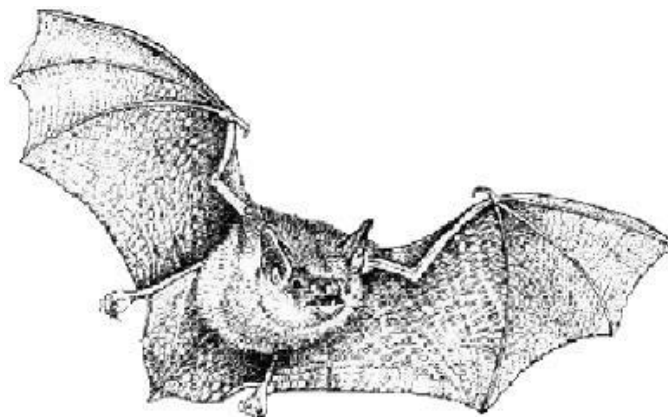
**Dale Hey Bungalow,
Preston Road,
Ribchester,
Preston,
Lancashire.
PR3 3XL**

**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

20th January 2022

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 and a post bird nesting survey (including barn owl), were requested, on the targeted building, and any trees, shrubs, and hedgerows within the overall 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).

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.
- To make biodiversity enhancement recommendations.

1.2 The Site.

The site was positioned along the northern edge of Preston Road, in the Ribchester area of Preston, in Lancashire, and consisted of a detached bungalow and its extensions, a separate detached outbuilding, and a separate detached garage, which as the latter was not included in the application, it was not surveyed at this time. However, all of the buildings were positioned within its own large area of land, and the targeted buildings and the surrounding land, from now on, were referred to as the “site”, at OS grid reference SD 64083 36068, (refer to **Fig 1 - The Site Location**).

1.3 The Buildings.

There was a single detached bungalow and its extensions, located in the south-western corner of a large plot of land, in a south-east to north-west orientation, with a separate out-house positioned close to the north-eastern corner of the bungalow. However, the surrounding site also included a separate detached garage positioned to the north of the bungalow, but as this was not included in the current planning application it was not inspected during the current survey.

1.4 Surrounding Land.

The bungalow and the outhouse were positioned close to the south-western corner of the site, with an area of overgrown garden containing some immature trees, shrubs, and dense scrub growing to both the south, east and north of the targeted buildings.

There were hedgerows along both the western and southern boundaries of the site, whilst beyond these positioned to the north and north-west, were the extensive grounds of Dale Hey Farm Touring Caravan Park, containing a few buildings, and large areas of concrete hardstanding being used for the housing of caravans and motorhomes.

Preston Road lay to the south of the site, and which ran in a south-east to north-westerly orientation, bordered on both sides by lines of hedgerow, with large areas of open pasture beyond, again bordered by a mixture of either fencing or hedgerow, and containing the odd tree and shrub. At several locations along the road were the grounds and buildings belonging to several large farming complexes, some positioned along the northern edge, and others along the southern edge, all surrounded by areas of open pasture, with a few mature trees growing within them.

There was a small ephemeral pond lying approximately 0.8 km to the north-east of the bungalow, and another pond positioned 0.12 km to the north-west, whilst Boyce's Brook ran through an area of woodland in a south-easterly to north-westerly orientation, running 0.25 km at its nearest point from the site. The brook joined the River Ribble which ran from the east in a westerly direction, approximately 1.42 km from the site at its nearest point from the bungalow.

There were some ponds and drainage ditches in the surrounding fields, but other than the above mentioned features there were no other areas of open water, or areas of woodland in the surrounding area, (refer to **Fig 1 -The Site Location**, **Fig 2 – Google Map of Area**, **Fig 3 – Main Plan of Area**, **Fig 4 - Plan of photographs**, and **Fig 5 - Plan of Evidence and Opportunity Survey Results**).

2. Methods.

2.1 Risk Assessment, Possible Hazards.

Although most of the surrounding garden was overgrown with a mixture of bramble and nettle scrub, the required access to the site could be achieved, and although the windows and doors were boarded up, the external elevations of the buildings could be searched with care.

However, both the bungalow and the nearby outhouse were in an acceptable condition, and could be accessed internally and easily searched, and there were no more hazards other than those normally associated with surveying both the inside and outside, of this type 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 current daylight evidence and opportunity bat survey took place on 7th January 2022, and was carried out in order to assess the site, and search for evidence of bat occupation, (including recent and historic use). Also, to determine how bats use the site, in what numbers, and if possible, what species of bat are present.

The current survey was undertaken in accordance with the standard methods described in the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (BCT 2012). It comprised a search for bats, bat droppings, remains of invertebrate prey, grease marks or fur staining, 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 recent nesting birds, any active nests, splash and feathers.

Areas within the targeted buildings searched were:

- Outside both buildings, their eaves, soffits, and walls for signs of potential bat access holes, the ground, doorways, and any other surfaces, such as bushes, low roofs or refuse bins, which may occur underneath the eaves, and around the perimeter of the building, which may catch bat droppings.
- Inside the buildings, on floors, door lintels, window ledges, or on pieces of furniture, racking 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.

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

All possible roosting areas within the trees, shrubs and hedgerow, both around the site perimeter, or within the site itself, were searched for bats, bat droppings, urine staining, any 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.

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

All currently nesting bird species observed during the survey were recorded.

The search also included a search for evidence of barn owl use such as pellets, faecal splashes and feathers.

All surrounding habitats were assessed for their value for use by nesting birds, particularly barn owls.

2.4 Equipment.

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

3. Results.

3.1 Daylight Survey.

3.1.1 Weather.

The weather conditions at the start of the survey (7th January 2022) were reasonable. There was heavy cloud and a light breeze, (Beaufort Scale 2/3), and a temperature at the time of the survey of 4°C, and such conditions were suitable for a survey of this type.

3.2 Possible Roost Sites.

3.2.1 The Buildings.

There were three buildings positioned within the overall site, a detached bungalow with its extensions, and a nearby detached outhouse, and both of these were surveyed for signs of bat usage and occupancy. There was also a nearby detached garage, but as this was not included in the current application, it was not inspected during the survey.

The Bungalow.

The bungalow was a rectangular single-story structure, lying in a north-west to south-eastern orientation. It was constructed with an inner skin of brick, and an outer skin of concrete block, a large part of which was covered in a pebble-dash render. It had a pitched roof covered in slates but there was neither insulation nor underlining, (refer to **figs 3, 4 and 5**, and **photos 1 to 26**).

There were two dormer windows and an entrance porch positioned centrally within the southern elevation, and another bay window attached to the western elevation. All of these were connected internally to the bungalow, but with no searchable roof voids beneath their sloping slate covered roofs, (refer to **figs 3, 4 and 5**, and **photos 1 to 14**).

Attached to the western corner of the bungalow and connected to it internally was a rectangular, single storied kitchen extension, built from pebble-dash coated materials, and with a uninsulated slate covered roof that continued the pitch of the main roof, but with no roof void, (refer to **figs 3, 4 and 5**, and **photos 12 to 18 and 25**).

Positioned along the northern elevation and connected externally to both this elevation, and the eastern elevation of the kitchen extension, and connected internally to the latter, was a square, single-storied utility extension. This was constructed from concrete block, with a sloping, corrugated plastic sheeting roof, with neither insulation nor roof void, (refer to **figs 3, 4 and 5**, and **photos 17 to 19, 21 and 26**).

Although the bungalow, its extensions, and the separate outhouse were in an overall acceptable condition, with well-sealed roof and gables, they had all been unused and empty for some time. All parts were unheated and uninsulated, and would be cold, draughty, and damp throughout most of the year, and as such, were deemed unsuitable for either daytime roosting or breeding bats. Also, as frost and inclement bad weather was likely to penetrate the interiors of the buildings in the colder months, they did not offer the optimum humidity and constant low temperatures that are required for hibernating bats, and the resulting conclusion was that all parts of the both the bungalow and the outhouse were deemed to offer extremely low potential for roosting bats.

There were potential bat access points however, and these were:

- Positioned close to the south-eastern corner of the bungalow, there were several gaps between the two skins of the walls, and these were visibly searched externally, and also internally using an endoscope, and neither bat droppings, urine or fur staining, or remains of invertebrates were found, and the gaps were deemed not to have been used by roosting bats, (refer to **figs 3, 4 and 5**, and **photos 1 to 4**).
- The end ridge tile over the entrance gable in the southern elevation was missing, and also some slates themselves had lifted at the south-western corner of the porch roof, both resulting in holes large enough to bats to use, however a close inspection of both the hole themselves, and the walls and floor beneath them, found neither bat droppings, nor any other signs of bat usage, (refer to **figs 3, 4 and 5**, and **photos 5 to 9**).

- The wooden soffits were in a poor state, resulting in a hole in the soffit at the side of the southern porch roof, also a part of the soffit at the eastern gable of the bungalow roof was missing, and again at the north-western corner of the kitchen roof, a part of the soffit had become loose and was falling away. All three of these locations were carefully searched, first by endoscope to view inside the holes and gaps, and then the walls and floor beneath these locations were visibly examined, but no evidence of bat usage was determined, (refer to **figs 3, 4 and 5**, and **photos 7, 11 and 16**).
- There was vertical crack in the western elevation wall, and this was carefully searched internally, and the wall and ground beneath were also searched, however, inspection found the crack to be heavily cobwebbed, and therefore, was deemed to offer negligible bat roosting potential, (refer to **figs 3, 4 and 5**, and **photo 13**).
- Several of the roof slates around the chimney, poisoned at the western end of the bungalow roof, had slipped, however, a close examination of the slates themselves, and the roof around that area of the roof using close-focus binoculars, found neither bat droppings, invertebrate remains, urine staining, or fur stains from repeated passage by bats beneath the slates, and therefore it was concluded that bats have never used the slipped slates or this part of the roof, for roosting beneath, (refer to **figs 3, 4 and 5**, and **photo 20**).
- A dense mat of ivy (*Hedera helix*) covered part of both the bungalow's northern and eastern elevations, and the part of the roof connecting them, and also with a smaller plant growing on the walls at the south-western corner of the bungalow. Dense ivy is considered to have a low, but significant bat roost potential, and where possible, a careful search between the various parts of the ivy plant, particularly on the roof, initially by hand, torch, or with the use of the endoscope, found neither droppings, prey remains, urine staining, fur staining from continual passage between the leaves and plant stems, or bats themselves, nor was any evidence of past bird nesting found within the ivy, (refer to **figs 3, 4, 5**, and **photos 1, 2, 9, 10, 18, 19, 21 and 22**).

The Outhouse.

The outhouse was positioned a short distance away from the northern elevation of the bungalow, and was angled parallel to it. It was a single-story rectangular building, constructed from vertical concrete panels mounted in a timber frame, and with a pitched roof of corrugated sheeting mounted on timber roof structure.

The outhouse was empty and hadn't been used for considerable amount of time, and although it was fairly sound, it was unheated, uninsulated and would be draughty and cold throughout most of the year, and therefore was deemed unsuitable for either daytime roosting bats, or breeding bats. It was also concluded that the building would be penetrated by frost and inclement weather in winter, thus making the building unsuitable for hibernating bats, and therefore the outhouse was concluded to offer negligible bat roosting potential, (refer to **figs 3, 4 and 5**, and **photos 17, 23 and 27 to 33**).

There were potential bat access points however, and these were:

- The main door was missing from the doorway in the western elevation, however neither bat droppings, invertebrate prey remains, any urine staining, nor bats themselves were found anywhere within the outbuilding, and it was concluded that bats do not use the outbuilding for either daytime bat roosting, breeding, or for hibernation, (refer to **figs 3, 4 and 5**, and **photos 17 and 28**).
- The remains of an old bird's nest was found on top of a timber roof beam, and also signs of bird splash was found on the beam itself. However, due to the age of the nest, and the state of its deterioration, it was impossible to ascertain which bird species had made the nest. It was determined however, that the nest had not been used during recent years, and it was

thought that this future potential bird nesting would be lost, when the building is demolished, (refer to **figs 3, 4 and 5**, and **photos 33**).

Close inspection of the bungalow, its extensions, and of the separate outhouse during the survey, found neither current nor historic evidence of bats, either internally or externally, nor around any other part of the surrounding site.

Although there was some bird activity during the survey, none were seen exhibiting any type of current nesting behaviour, nor was there any evidence, other than the old nest found in the outhouse, to suggest that any other part the buildings, nor anywhere else in the overall site, had been used historically by either nesting or roosting birds. It was also deemed that due to the time of year, birds will not yet have started setting up territories, or commenced to build nests for the 2022 nesting season, (Refer to **Appendix 1**).

During the survey of the site, no owl pellets, faecal splashes, feathers, or prey remains, were found to suggest that the either the bungalow, its extensions, nor the outhouse, were either currently or historically have been used by barn owls. It was also deemed unlikely that the buildings would be used for barn owl roosting purposes, as the interiors offered limited access, and negligible internal perching potential.

3.2.2 Trees and Shrubs.

There was a line of mature trees and hedgerow with a bramble understory, growing along both the site's western and southern borders of the site, and with some small shrubs and immature trees growing in the small garden to the west of the bungalow. There was an area of dense scrub with further small shrubs and a bramble understory, growing within the north and north-eastern gardens of the site, close to the northern elevation of the outhouse.

it was understood however at the time of the survey, that very little of this vegetation would be affected by the planned work. Where possible, these were inspected for potential bat roosting opportunities; but none was found, and therefore they all were judged to be Category 3 (negligible value) in accordance with **Appendix 2**.

It was thought likely that some of the hedgerow, trees and shrubbery around the site, could be used by nesting birds during the nesting season, but at the time of the surveys, although there was some bird activity in and around the site, no active nests were found, nor were any signs found of their usage by barn owl. It was also surmised that due to the time of year, most birds will have ceased to breed.

3.2.3 Foraging Potential and Alternative Roost Potential.

The site lay within a rural area, and the surrounding area consists of a few farming complexes, together with large areas of open pasture, bordered by either hedgerows or fencing, along with a few shelterbelts of mature trees and shrubs, and with the large caravan storage area to the west of the site.

Boyce's Brook ran in a roughly north-west to south-easterly orientation through a large shelterbelt of trees, at its nearest approximately 0.25 km away to the north of the site. There were also a few ponds and drainage ditches in the surrounding fields, but other than these above-mentioned features, there were no large areas of woodlands, watercourses, or reservoirs in the nearby vicinity, and thus, the area overall, was assessed to offer only low to moderate potential value for foraging bats, primarily pipistrelle species, but it was thought that small numbers of other species could be present.

During the survey, although numerous birds were observed around the site, none were seen showing any potential nesting behaviour, and it was felt, that at this time of the year, that bird nesting behaviour for the 2022 season will not have started.

Although there was good potential for barn owl to forage in the nearby vicinity, it was felt that the site offered negligible potential for either roosting, nesting or breeding, as the buildings offered very little roosting potential.

4. Conclusions

4.1 In summary during the current surveys undertaken on 7th January 2022, no current, or historic evidence of roosting bats was found anywhere within in the bungalow or the adjacent outhouse, nor anywhere else within the site.

4.2 The bungalow had been unoccupied for quite some time and was empty, but was in a reasonably sound condition. The adjacent outhouse was also empty and in poor condition, and both were unheated, uninsulated, and would be draughty and cold throughout most of the year, and therefore they were deemed unsuitable for either daytime roosting bats, or breeding bats. It was also concluded that the buildings would be penetrated by frost and inclement weather in winter, thus making them unsuitable for hibernating bats, and therefore it was concluded that both the bungalow and the adjacent outhouse were both deemed to offer extremely low potential for roosting bats, (refer to **Appendix 2**).

4.3 None of the nearby trees, shrubs, and hedgerows around the site, offered any suitable roosting opportunities for bats of any species, and therefore, they were all concluded to offer negligible potential as possible bat roosts, (refer to **Appendix 2** and **3**).

4.4 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.

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

4.6 The adjacent habitats had the potential to support only low to moderate numbers of foraging common pipistrelles, but large numbers of other species of bats was unlikely. It was concluded that since there was currently no evidence of the presence of bat roosts within any part of the site, that the proposed modernisation of the site, 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.

4.7 It was also concluded that since no current evidence of roosting bats, had been found during the current surveys on 7th January 2022, then a single daylight evidence and opportunity bat survey, was considered sufficient to assess the site, (refer to the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys – Good Practice Guidelines' (BCT 2012), paragraph 8.3.4).

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 site boundaries would probably be mostly unaffected by the work. Also, as the planned development does not drastically alter the footprint of 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.

4.9 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. There was potential for all the targeted buildings, the other building on site, and also the trees, shrubs and hedgerow around the site perimeter, to be used by birds for both roosting

and nesting purposes, but no evidence of nests was found in the vegetation. However, it was concluded that the nesting potential of the currently unused nest found in the outbuilding, would be lost when the site is developed, (Refer to **Appendix 1**).

4.10 Although the surrounding habitat of open pasture and lines of hedgerow offered good foraging potential for barn owl, the bungalow and outhouse offered little breeding/roosting potential.

5. Recommendations.

5.1 The proposed changes to the site as laid out in the planning application can commence if the following mitigation measures are adhered to.

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

5.3 Ideally, all parts of the bungalow and outhouse, (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 stables as spring, summer and/or autumn roosts 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 really warm spring, or later in a cold spring.

5.4 However, as it is likely that the building will be worked on at other times, it will be very unlikely that roosting bats will be disturbed, but it is recommended that work starts as soon as possible after this survey, and that all slates or sheeting on the roofs, and any soffit boarding or sheeting over walls, are carefully removed by hand, (the ridge and edge tiles and copingstones are the features most likely to harbour potential for the support of roosting bats). Once the roof has been removed, the building should be left for two nights before renovation continues. This will permit any bats present in cracks time to move off.

5.5 If more than 12 months elapses between this survey, and the commencement of any building work, or roof tile removal is intended, then surveys of the site must be repeated. The evidence and emergence survey needs to be carried out under weather conditions suitable for normal bat activity, or when bats are fully active, (May to September but is weather dependent), and this will also be accompanied by a suitable number of evening bat emergence surveys.

5.6 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 Schwegler 1FD bat boxes. These can be attached to the outside of a building at the gable ends, and also to some of the trees surrounding the site. It is recommended that these measures are implemented as soon as possible after the survey, to maximise the opportunities for wildlife at the site, (refer to **Appendix 6** for details).

5.7 There was potential for both roosting, and nesting birds around the site perimeter, and although there was some bird activity noticed, there were no current signs of nesting behaviour observed during the surveys. It is therefore recommended that where possible, the perimeter hedgerows, and shrubs be left untouched to encourage future nesting.

5.8 It is therefore also recommended that some wooden nest boxes are erected 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 the nesting opportunity in the outbuilding, during, and after the development, to encourage and enhance future colonisation and nesting by the numerous different species of birds, found in the local area, (refer to **Appendix 7** for details).

5.9 Any future vegetation clearance should only be carried out between September and February inclusive, (i.e., outside the bird nesting season), unless it is confirmed by a suitably experienced ecologist that no active nests are present. If, however, should the removal of any of the hedgerows around the boundaries take place during the early part of the nesting season, then the shrubbery should be removed from the site immediately following the felling. Failure to do so could provide potential nest sites if left in place throughout the rest of the bird breeding season.

5.10 It must be remembered however, that it is an offence to disturb active birds' nests. It is recommended therefore, that before any commencement of building or demolition 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 active nests. 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.

5.11 It is also recommended that some wooden nest boxes are erected 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, and also to encourage and enhance future colonisation and nesting, by numerous bird species, (refer to **Appendix 7** for details).

5.12 Before any shrub or hedgerow, or excess building materials are pruned, disturbed, or removed, during building works, it is recommended that this 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).

5.13 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).

5.14 No outside 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.

5.15 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.

5.16 Close boarded fences with concrete bases, or brick walls, are barriers to animal movement, and It is recommended, that any new perimeter fences installed 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.

5.17 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.

5.18 To enhance the site's value for wildlife, it is recommended that tree planting is planned as part of the development, and the trees used are 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.

5.19 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 (07745 268815), or 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 surveys were undertaken during winter, 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 buildings 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.

7. References.

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Bat Conservation Trust (2012) Landscape and urban design for bats and biodiversity.

Hamlyn (1993) Bats of Britain and Europe - Schober and Grimmberger

Anon. (2007) The Population Status of Birds in the UK: Birds of conservation concern: 2002-2007

8. Surveyors Qualification.

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)

9. Plans & Photographs.

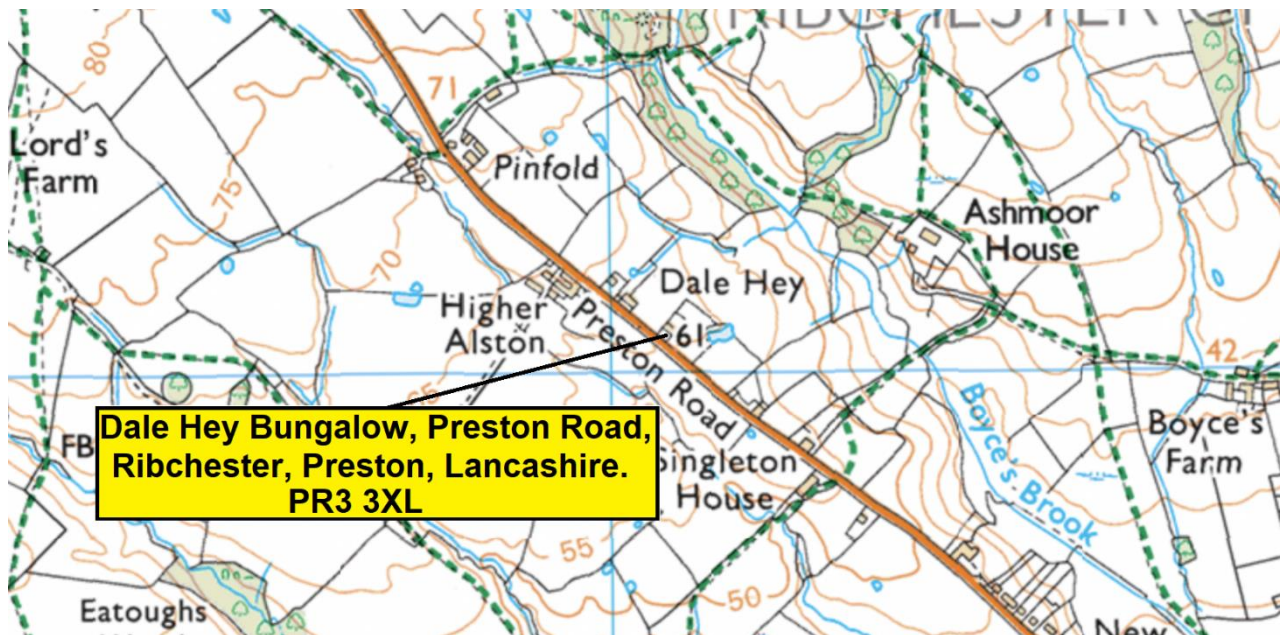


Fig 1 - The Site Location



Fig 2 – Google Map of Area



Fig 3 – Main Plan of Area

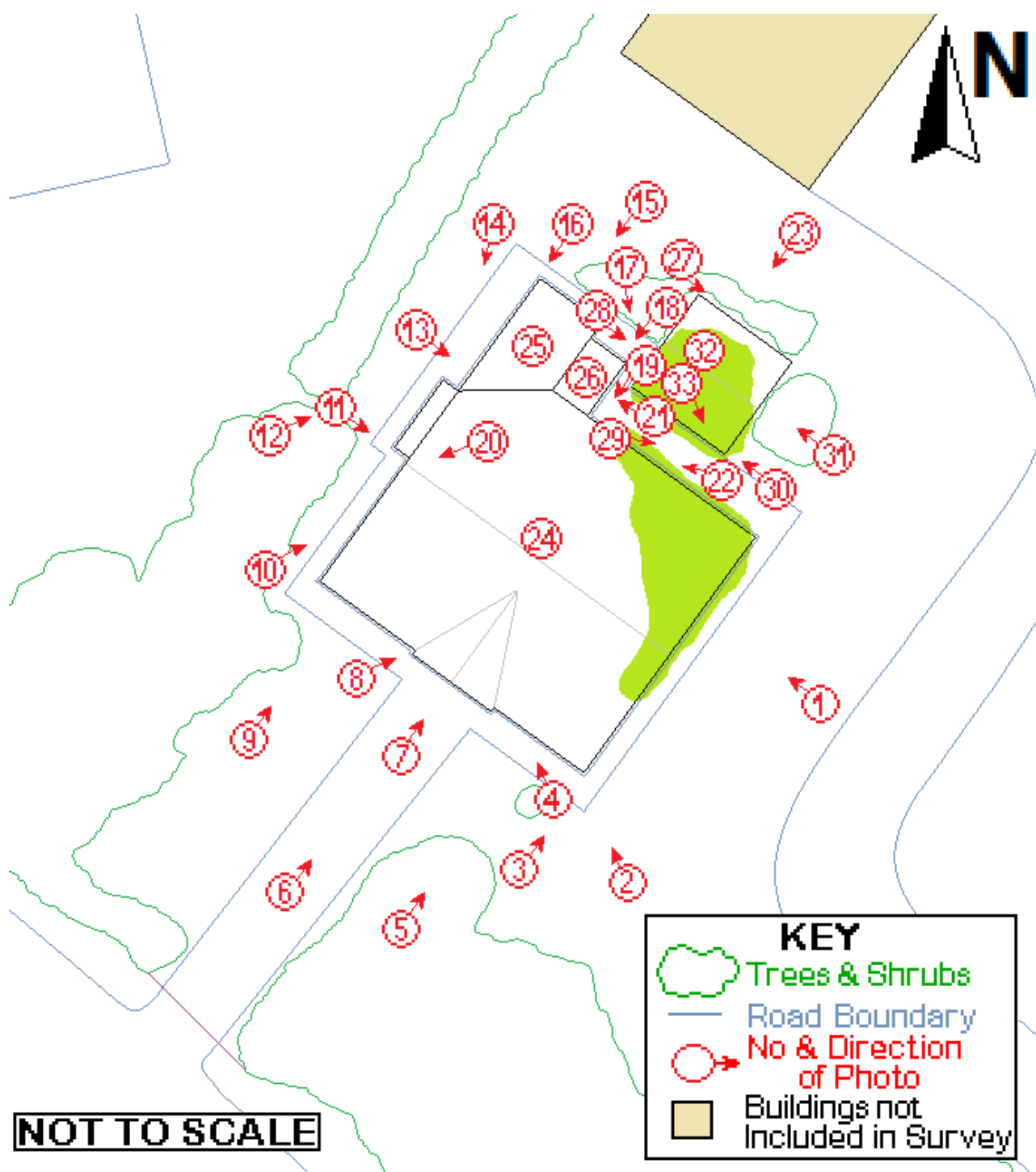


Fig 4 – Plan of Photographs

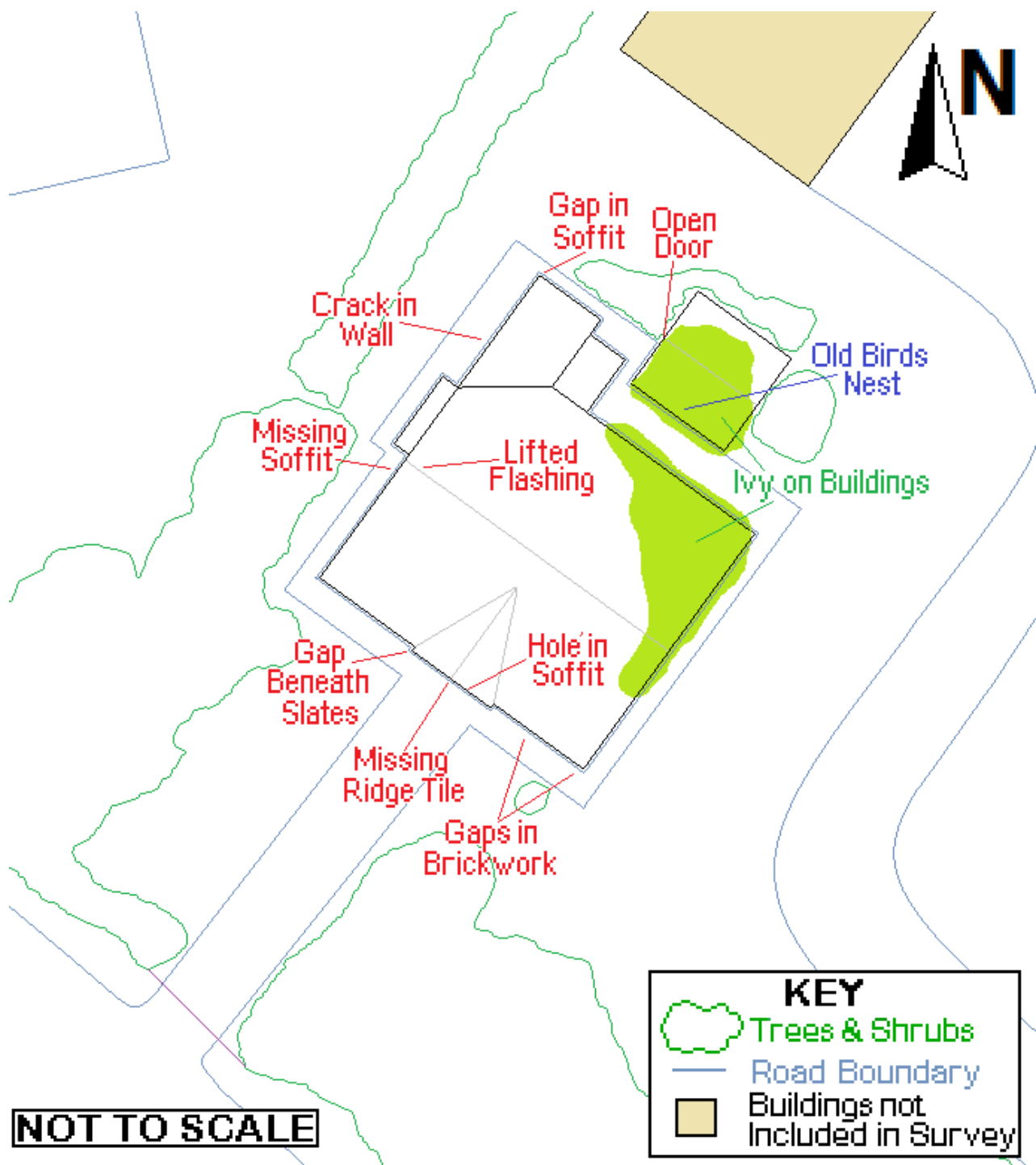


Fig 5 – Plan of Evidence and Opportunity Survey Results



PHOTO 1
Eastern Elevation of Bungalow



PHOTO 2
South-eastern Corner of Bungalow



PHOTO 3
Part South-eastern Corner of Bungalow



PHOTO 4
View along South-eastern Corner of Bungalow



PHOTO 5
South-eastern Elevation of Bungalow



PHOTO 6
Southern Elevation of Bungalow



PHOTO 7
View of Entrance Roof



PHOTO 8
View of South-western Edge of Entrance Porch



PHOTO 9
South-western Corner of Bungalow



PHOTO 10
View Along Western Elevation



PHOTO 11
Western Gable End of Bungalow



PHOTO 12
Western Elevation of Kitchen Extension

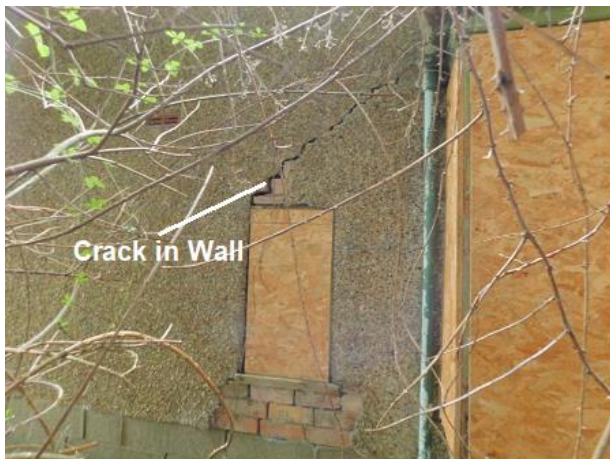


PHOTO 13
Part of Western Kitchen Elevation



PHOTO 14
North-western Corner of Kitchen Elevation



PHOTO 15
Northern Elevation of Kitchen Extension



PHOTO 16
North-western Corner of Kitchen Extension



PHOTO 17
North-western Corner of Bungalow



PHOTO 18
North-eastern Corner of Utility Extension



PHOTO 19
Part Northern Elevation of Bungalow



PHOTO 20
Northern View of Chimney



PHOTO 21
Eastern Elevation of Utility Extension



PHOTO 22
View Along Northern Elevation of Bungalow



PHOTO 23
Northern Elevation of Bungalow



PHOTO 24
Underside of Bungalow Main Roof



PHOTO 25
Underside of Extension Roof



PHOTO 26
Underside of Utility Building Roof



PHOTO 27
North-western Corner of Outbuilding



PHOTO 28
Western Elevation of Outbuilding

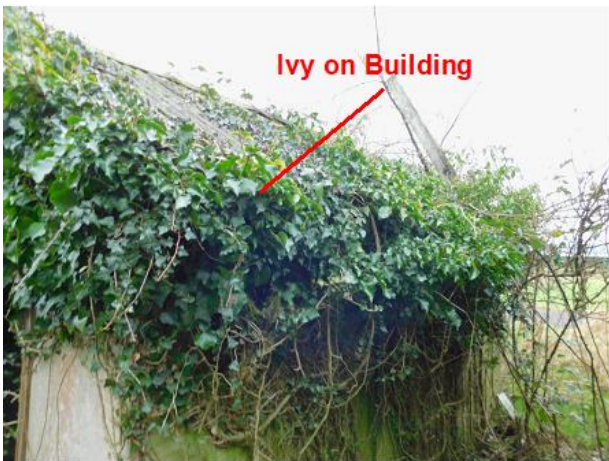


PHOTO 29
Southern Elevation of Outbuilding



PHOTO 30
South-eastern Corner of Outbuilding



PHOTO 31
Eastern Elevation of Outbuilding



PHOTO 32
Underside of Outbuilding Roof



PHOTO 33
Southern Part of Outbuilding Roof

20th January 2022
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 protected species. There is also no guarantee that any particular protected 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.

Defenses 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 renovation.

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 licenced 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*).

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:

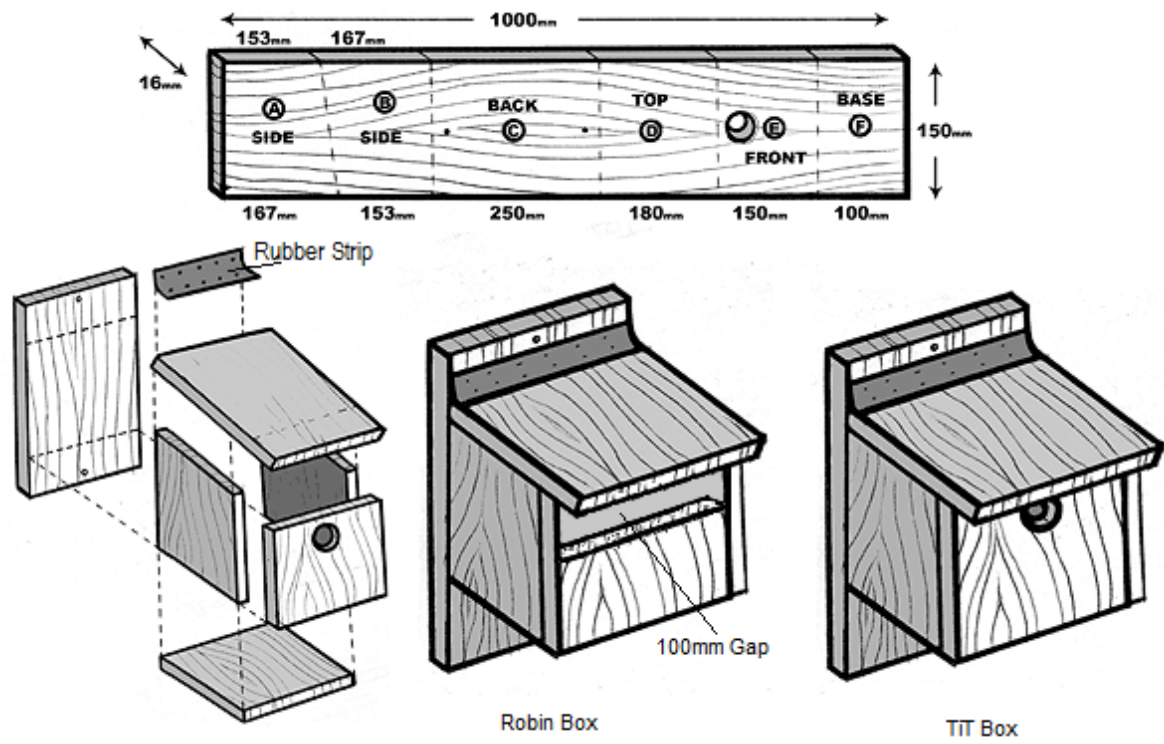
25 mm for blue, coal and marsh tits

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.