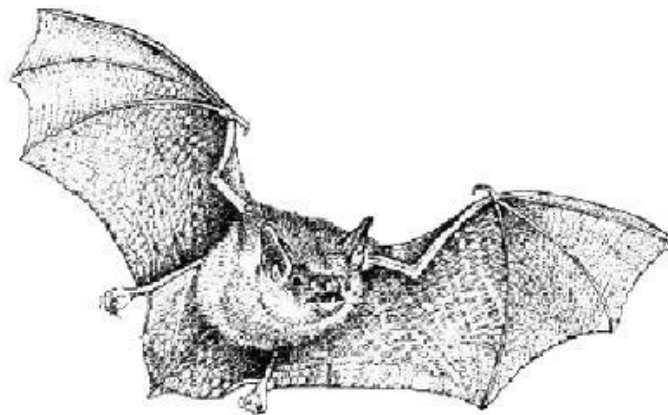


**Parkfield Holy Trinity Church,
Archer Park, Middleton, Manchester
M24 4AX**

**Survey & Assessment in Respect of
Bat Species and Nesting Birds.**

**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

16th September 2022

1. Introduction

1.1 Reason for Survey

As part of the process to obtain planning permission to develop the site, a single preliminary daylight evidence and opportunity bat survey, two separate evening bat emergence surveys, a single bat dawn re-entry survey, and a nesting bird survey, were requested, on the church, and any trees, shrubs, and hedgerows, both within, and around the site boundaries. The purpose of these surveys was to provide up-to-date evidence on habitats and protected species within the site boundaries, as part of the Local Development Framework (UDP Policy EN9). Also, to establish whether conditions within the site had changed, since the previous survey undertaken by Echo Calls Bat Surveys on 26th June 2018, and to establish whether there was any evidence of any new bat activity, or indications of new bat roost(s) being set up within the site?

1.2 Aims.

The aims of this ecological assessment were to:

- To assess the site for the presence, or potential of protected species, within the proposed development site.
- 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 provide clear advice to the client, and the Local Planning Authority, on the nature conservation value of the site, and surrounding area.
- To enable the client to comply with legislation afforded to protected sites and species.
- To establish the need for any further surveys and assessments.
- To make nature conservation recommendations.

1.3 The Site.

The targeted building was a large church within its own church grounds, and was located at the end of a short drive connecting the site to the nearby Archer Park, in the Middleton area of Manchester, and the church and grounds from now on, are referred to as the “site”, at OS grid reference: SD 86483 05945, (refer to **Fig 1 - The Site Location**),

1.4 The Building.

There was a single large church located centrally within the overall site.

1.5 Surrounding Land.

The church was located centrally within its own grounds, which was bordered on three sides by fencing, beyond which were a mixture of mature trees and shrubs with a bramble understory, and with fragmented hedgerow along the site’s western border.

Beyond the churchyard on all sides, was a mixture of housing of various types and sizes, and the majority had gardens containing some mature trees, and were bordered by a mixture of hedgerow and fencing.

There were the playing fields and buildings belonging to Parkfield Primary School lying a short distance away to the west, and with a small reservoir positioned approximately 0.14 km to the north-east of the site. Whilst the greens, fairways, and bunkers of North Manchester Golf Course, lay approximately 0.19 km to the west of the site, before stretching away further west, and which also contained a few shelterbelts of trees and several small reservoirs.

Further housing lay to the south of the site, with a large playing field positioned 0.25 km to the south-west with a collection of fishing ponds 0.72 km to the south-west across Manchester Old Road, adjacent to Alkrington Woods Nature Reserve, through which, meandered the River Irk, in an east to west orientation 0.5 km away from the church at its nearest point. (refer to **Fig 2 – Google Plan**).

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 Plan, Fig 3 – Main Plan of Surrounding Area, Fig 4 – Plan of Photographs, Fig 5 – Plan of Preliminary Evidence and Opportunity Bat Survey Results, Fig 6 – Plan of 1st Evening Bat Emergence Survey Results, Fig 7 – Plan of 2nd Evening Bat Emergence Survey Results and Fig 8 – Plan of Dawn Re-entry Survey Results**).

2. Methods.

2.1 Risk Assessment, Possible Hazards.

Although the church grounds were heavily overgrown, the required access to the site was possible, and the perimeters of the church could be searched with care. The building was in reasonable condition, and fairly well sealed, and there were no more hazards other than those normally associated with surveying the inside of buildings of this type.

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 Preliminary Evidence and Opportunity Survey.

The preliminary daylight evidence and opportunity survey took place on 24th August 2022, and was carried out in order to assess the site, and search for evidence of bat occupation (including recent and historic use) and to see if the site had changed since the 2018 survey.

It comprised a search for bats, bat droppings, 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 church searched were:

- Outside the church; the eaves and walls for signs of potential bat access holes, the ground, window sills, and any other surfaces, such as 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 church, on floors, roof trusses, storage tanks, door lintels, window ledges, or on pieces of church furniture and the organ, behind window shutters and curtains, peeling

plaster, behind wall pictures and posters, 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, but 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 habitats were assessed for their value for use by nesting birds

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

All nearby habitats were assessed for their value for use by hedgehogs.

2.4 Equipment

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

2.5 The Evening Bat Emergence Surveys.

Due to the age of the church, and although the building had previously been assessed during the previous survey undertaken by Echo Calls Bat Surveys on 26th June 2018, to have low roost suitability, the potential bat access points found during the survey, it was deemed beneficial that two evening bat emergence surveys would be carried out to further assess the site, by observing how bats utilise the site, and observe if any bats emerged from possible roosts within any part of the church, or from any of the nearby trees and shrubs. The first survey was also carried out on 24th August 2022, whilst the second was undertaken on 29th August 2022 and were carried out by three surveyors, strategically positioned to ensure maximum observation of the church.

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, a Bat Box 3D heterodyne bat detector, and Magenta Bat 5 heterodyne bat detectors, all with earphones.

2.6 Dawn Bat Re-entry Survey

A dawn bat re-entry survey was carried out in order to assess the site even further, and observe if any bats entered any possible roost within the buildings. This survey took place on 12th September 2022.

2.5 Equipment

The equipment used during the survey, consisted of close-focus binoculars, powerful hand-held torches, a night-vision scope, an Echo Meter Touch 2 real-time expansion detector for Android, a Bat Box 3D heterodyne bat detector, Magenta Bat 5 heterodyne bat detectors, all with earphones.

3. Results

3.1 Daylight Evidence and Opportunity Survey

3.1.1 Weather

The weather conditions on 24th August 2022, at the start of the survey were good. It was sunny with some cloud cover, and a light breeze, (Beaufort Scale 1/2). The temperature taken at the start of the survey was 19°C and such conditions were optimal for a survey of this type.

3.2 Possible Roost Sites

3.2.1 The Building

There was only a single building on the site surveyed for signs of bat activity, and this was an unoccupied church, as mentioned above (paragraph 1.4).

The Church

Located centrally within the site was a traditional church, constructed of stone, and split into several definitive parts, the nave, chancel, aisles, transept, church entrance and bell tower. Both the main body of the church and the chancel had high vaulted arched roofs with no visible voids, (refer to **figs 3, 4 and 5**, and **photos 1 to 38**).

Close to the south-western corner of the church was a small entrance porch, constructed from stone with a pitched roof of uninsulated slate and no roof void, and also attached fairly centrally along the southern elevation were the two parts of the transept, which had pitched roofs but again there were no voids, and both of these were covered in uninsulated slates, (refer to **figs 3, 4 and 5**, and **photos 4 to 11 and 34**).

Attached to the south-western corner of the church was the flat roofed building containing the church organ. The roof was covered in felt and no void, (refer to **figs 3, 4 and 5**, and **photos 16, 17 and 37**).

Attached to the northern elevation of the church were two extensions. an office with a sloping roof covered in uninsulated slates but with no roof void, and adjacent to and connected internally to it, was the vestry that had a pitched roof of uninsulated slates and with no void. There was also an entrance to an underground cellar to the east of the vestry, but this was locked up for security reasons, and therefore the cellar could not be searched, (refer to **figs 3, 4 and 5**, and **photos 22 to 28, 30, 37 and 38**).

Positioned at the eastern end of the church was a tall, multi-faceted church tower, built from stone with a domed multi-faceted slate covered roof, and no roof void. There were long arched windows within the facets, but these were well sealed, (refer to **figs 3, 4 and 5**, and **photos 18 to 21**, and **35**).

The church was in a good condition with well-sealed roofs and soffits, and well pointed walls. However, it had been empty and unused for some considerable time, was unheated and cold, and had neither lining, nor any insulation, and therefore the church was deemed unsuitable for breeding bats. Also, as inclement weather, damp and frost were all likely to affect the interiors, the church did not offer the optimum humidity, and stable low temperatures, that are required for hibernating bats. Therefore, all parts of the church were concluded to offer low roost suitability.

There were potential bat access points however and these were:

- There was a hole in the window located in the western elevation, a hole at the apex of the western transept gable, some gaps between some of the stones in the northern elevation, also a gap where the mesh had been twisted away from around the window over the entrance porch. All of these potential bat access points were closely inspected externally, either by sight or by close-focus binoculars, and where possible internally by endoscope. Also, the areas around the gaps, on the walls, floors and windows beneath them all, found neither bat droppings, any urine staining, remains of any invertebrate prey, nor any grease marks from repeated contact or passage, through any of the holes or gaps, and it was deemed therefore, that bats had not used any of these holes or gaps for either roosting or access purposes, (refer to **figs 3, 4 and 5**, and **photos 4, 9, 10, 12, 22 and 26**).
- At several locations in the walls around the perimeter of the church, were groups of three vertical ventilation slits, and there was also a hole between stones where the mortar had broken away along the western elevation of the porch. A careful search of all of these using the endoscope, found them mostly to be heavily cobwebbed, or of insufficient depth to offer any roosting opportunity, and therefore they were all deemed to offer negligible bat roosting potential, (refer to **figs 3, 4 and 5**, and **photos 5, 7, 10, 11, 14, 15, 31 and 32**).
- There was a small storage shed attached to the northern elevation of the vestry, and this was built from breeze block with a flat concrete slab for the roof, covered with roofing felt. It had an open doorway along its northern elevation, and a hole where the roofing felt had lifted along the eastern edge of the roof. The gap beneath the felt, the walls both internally and externally around the shed, and the floor both outside and within the shed, were carefully searched, but neither droppings, invertebrate prey remains, nor any staining marks were found, and the shed was deemed to be of low bat roosting suitability, (refer to **figs 3, 4 and 5**, and **photo 25 and 26**).

During close inspection of the different parts of the church, neither bat droppings, any urine or fur staining, nor any invertebrate prey remains were found, either internally, externally, or around any other part of the building, nor was any evidence found to suggest that the church was being used by any currently nesting or roosting birds.

3.2.2 Trees and Shrubs.

There were both mature and immature trees and some overgrown shrubbery growing within the site, and hedgerows, trees and shrubs around the outer boundaries of the site. All of these that were accessible, were carefully searched, but none were found to have any lifted bark, canker damage, cracks, or holes suitable for roosting bats. A number of these were within the gardens of neighbouring properties, beyond the designated site boundaries, and these could not be searched, however, all of the above were judged to be Category 3 (of negligible value for roosting bats) in accordance with **Appendix 2**.

It was thought likely that some of the hedgerow and shrubbery around the site, 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. It was also surmised that due to the time of year, some birds may already have ceased to breed.

3.2.3 Foraging Potential and Alternative Bat Roost Potential

The site was in a suburban area, and the nearby habitat consisted of a mixture of dwellings, with gardens containing numerous trees and shrubs, also a nearby school to the north with open playing fields, and a nearby golf course positioned to the west, containing shelterbelts of trees and several ponds. All of these together offered linear features suitable for foraging bats, such as common pipistrelle (*Pipistrellus pipistrellus*), and possibly other bat species, to hunt along and over for their insect prey.

There were also the fishing lodges, the large Alkrington Woods Nature Reserve, and the River Irk, running through it, all to the south of the site, across Manchester Old Road, and all these features together, offered linear features suitable for foraging bats such as common pipistrelle, and possibly other bat species, to hunt along for their insect prey, and thus the overall area was assessed to offer only low to moderate potential value for foraging bats, primarily pipistrelle species.

It was considered that other buildings, especially dwellings in the surrounding area, could offer greater potential as bat roosts. Bats favour heated building whilst breeding.

3.3 First Evening Bat Emergence Survey

The first of two emergence surveys was carried out to further assess the site, and observe if any bats emerged from roosts within any part of the church, or from the trees, hedgerows and shrubs around the site perimeter, and also to observe how bats use the surrounding areas for both commuting and foraging. This survey took place on 24th August 2022.

3.3.1 Weather

The weather conditions on 24th August 2022, at the start of the survey were good. It was dry with some cloud cover, and a light breeze, (Beaufort Scale 1/2). The temperature taken at the start of the survey was 18°C and such conditions were good for a survey of this type.

3.3.2 The Survey

The sunset on the 24th August 2022 was 20.16 hrs, and the survey started 16 minutes before the sunset at 20.00 hrs, and ended when it was too dark to observe the bats well.

The first bat recorded was a common pipistrelle (*Pipistrellus pipistrellus*), and this was heard but not seen at 20.31 hrs over the trees to the south-east of the church, (refer to **pink arrow 1** on **fig 6**).

At 20.33 hrs a bat was observed commuting along the tree line to the south-east of the site flying from the east in a southerly direction, (refer to **pink arrow 2** on **fig 6**).

From 20.36 hrs until the survey ended, a bat was observed foraging amongst the trees to the north-west of the site, whilst from 20.39 hrs another was observed foraging over the churchyard to the south of the main entrance. Both of these bats continued to successfully forage, flying in loops around these areas during the survey, (refer to **pink arrows 3** and **4** on **fig 6**).

A bat was heard but not seen from 20.41 hrs, amongst the trees, close to the housing at the north-eastern corner of the site, (refer to **pink arrow 5** on **fig 6**).

At 20.40 hrs a bat began foraging in a loop around the south-western corner of the site, and this foraging continued around this area until the survey ended and numerous feeding buzzes were heard, (refer to **pink arrow 6** on **fig 6**).

At 20.41 hrs a pair of pipistrelles were observed chasing each other, flying from a point to the south of the site, before exiting from the site along the eastern site border, (refer to **pink arrows 7** on **fig 6**).

Beginning at 20.43 hrs another pipistrelle began to forage in a loop over the churchyard and treeline, to the north of the church. This behaviour continued until the survey ended and during which time numerous feeding calls were heard, (refer to **pink arrow 8** on **fig 6**).

The next pipistrelle was observed by one of the surveyors commuting over the trees to the north of the site at 20.48 hrs, a short time later however, a bat was seen flying by another surveyor, from

the north of the site in a southerly direction over Archer Park. It was thought probable that these could be observations of the same bat, (refer to **pink arrows 9 and 10** on **fig 6**).

No other bat activity was heard or observed, and at no time were bats seen to have emerged from any part of the church or its extensions, nor from any of the hedgerows, trees and shrubs within or around the site.

There was some bird activity in and around the site, but none showed any type of nesting behaviour, and no active nests were found. It was also surmised that due to the time of year, most birds will already have ceased to breed.

3.4 Second Evening Bat Emergence Survey

A second evening bat emergence survey was carried out to assess the site even further, and observe if any bats emerged from roosts within any part of the church, or from the trees, hedgerows and shrubs around the site perimeter, and also to observe how bats still use the surrounding areas for both commuting and foraging. This survey took place on 29th August 2022.

3.3.1 Weather

The weather conditions at the start of the survey on 29th August 2022 were good. There was a gentle breeze, (Beaufort Scale 2/3, with some wispy cloud cover, and with a temperature taken at the start of the survey of 18°C, such conditions were good for a survey of this type.

3.3.2 The Survey

The sunset on the 29th August 2022 was 20.04 hrs, and the survey started 17 minutes before the sunset at 19.47 hrs, and ended when it was too dark to observe the bats well.

The first two bats recorded were both common pipistrelle (*Pipistrellus pipistrellus*), and both were heard but not seen. The first was at 20.25 hrs amongst the trees to the south-west of the church, whilst the second was over the trees close to the housing positioned to the north-east of the church, (refer to **blue arrows 1 and 2** on **fig 7**).

Beginning at 20.27 hrs, a single bat foraged in a continuous loop over the church yard and transept, and this behaviour continued until the survey ended, and during which time numerous feeding buzzes were heard, (refer to **blue arrow 3** on **fig 7**).

Another pipistrelle was observed by two of the surveyors flying into the site from the garden to the north of the site, then over the church roof, before starting to forage over the south-western corner of the church. Again, this foraging behaviour was repeated until the survey ended, (refer to **blue arrow 4** on **fig 7**).

A pipistrelle was observed foraging in a loop over the drive and trees to the north-west of the site, This behaviour started at 20.35 and continued throughout the entire survey, (refer to **blue arrow 5** on **fig 7**).

Another bat was observed and feeding buzzes were heard, as it flew in a definite pattern over the trees along the northern border of the site, from 20.37 hrs until the survey ended, (refer to **blue arrow 6** on **fig 7**).

From 20.39 until the end of the survey, a single pipistrelle was heard but not seen amongst the trees to the south of the church. This bat was clearly foraging as feeding buzzes were heard, but the bat was never seen, (refer to **blue arrow 7** on **fig 7**).

No other bat activity was heard or observed, and at no time were bats seen to have emerged from any part of the church or its extensions, nor from any of the hedgerows, trees and shrubs within or around the site.

There was some bird activity in and around the site, but none showed any type of nesting behaviour, and no active nests were found. It was also surmised that due to the time of year, most birds will have ceased to breed.

3.5 The Dawn Bat Re- entry Survey

A bat re-entry survey was carried out at dawn on the 12th September 2022. This was carried out in order to further assess the site, and observe if any bats returned to and re-entered any roosts within any part of the church, or any of the surrounding trees and shrubs.

3.5.1 Weather

The weather conditions at the start of the survey on 12th September 2022 were good, being dry with some cloud, and with a light breeze, (Beaufort Scale 2). The temperature taken at the start of the survey was 13°C and such conditions were acceptable for a survey of this type.

3.5.2 The Survey

Sunrise on the 12th September 2022 was 06.38 hrs, and the survey started 95 minutes before sunrise at 05.03 hrs, and ended at 06.43 when it was fully light, and all bat activity had long ceased.

Two bats were recorded at 05.05 hrs, and these were both common pipistrelles (*Pipistrellus pipistrellus*). The first of these was observed foraging over the gardens to the north-west of the church, whilst the second was heard but not seen, foraging over the trees to the east of the site. Feeding buzzes were heard from both for some time before the foraging ceased, (refer to **pink arrows 1 and 2 on fig 8**).

A pipistrelle was observed foraging over the garden to the north-west of the site, between 05.09 hrs and 05.44 hrs, when it flew away in a westerly direction. During that time, numerous feeding calls were heard, (refer to **pink arrow 3 on fig 8**).

Between 05.12 hrs until 05.49 hrs, a pipistrelle was observed foraging over the footpath, trees and shrubs to the south of the site. This was in the form of a continuous loop, before the bat vanished to the south, (refer to **pink arrow 4 on fig 8**).

At 05.55 hrs, a single pipistrelle was observed commuting from over the gardens to the north of the site, then over the church, before exiting the site flying over its western site border, (refer to **pink arrow 5 on fig 8**).

The next two bats were both heard but not seen, the first was at 6.01 hrs beyond the trees to the south of the church beyond the treeline, and it was thought that this could be the same bat recorded a few minutes earlier. The second was at 06.10 hrs and this was over a neighbouring garden, a short distance away to the north-east, (refer to **pink arrows 6 and 7 on fig 8**).

No other bat activity was observed, and at no time were bats seen to have re-entered any of the potential roosts, gaps or holes within any part of the church, or from any tree or shrub around the perimeter of the site, (refer to **pink arrow 5 on fig 8**).

As the dawn approached the amount of bird song increased, but at no time during the survey was any signs of bird nesting behaviour observed either in church, or amongst the vegetation within and around the site.

4. Conclusions

4.1 In summary, at the time of the current surveys (24th August 2022, 29th August 2022 and 12th September 2022), nor during the previous surveys undertaken by Echo Calls Bat Surveys on 26th June 2018, were any current nor historic evidence of roosting bats found in any part of the church, nor in any of the hedgerows, shrubs or trees located around the site perimeter.

4.2 The church had not been in use for a number of years, and was unheated and cold, and had neither lining, nor any insulation, and therefore it was deemed unsuitable for breeding bats. Also, as inclement weather, and possibly damp and frost were all likely to penetrate and affect the interior, and therefore the church did not offer the optimum humidity and stable low temperatures, that are required for hibernating bats, and therefore, the church overall was concluded to offer low bat roost suitability, (refer to **Appendix 2**).

4.2 None of the trees and shrubs growing around the site boundaries, offered any cracks, lifted bark, canker damage, nor holes that could be used by roosting bats of any species, and therefore, they were all concluded to offer low bat roost suitability, (refer to **Appendix 4**).

4.3 Since bats, particularly Pipistrelles, are opportunistic, an absence of roost evidence at present within the church, does not preclude the low possibility of small numbers of bats, using parts of 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.

4.4 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. It was also concluded that since there is currently *no evidence* of the presence of bat roosts within any part of the site, that any proposed modification to the church, 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.

It was also concluded that since no evidence of roosting bats, or evidence of either current or historic bat occupation, had been found during the original surveys undertaken on 28th June 2018, and together with similar findings during the current surveys undertaken on 24th August 2022, 29th August 2022 and 12th September 2022, then a single visit to the site to carry out a daylight evidence and opportunity bat survey, two separate evening bat emergence surveys, and a single dawn bat re-entry survey were considered sufficient to assess the site at this time, (refer to the 'Bat Worker's Manual' (JNCC 2004) and 'Bat Surveys - good practice guidelines 3rd Edition. Bat Conservation Trust. London. Collins (2016), Table 7.3). (Refer to **Appendix 3**).

4.5 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. As bats use linear features such as lines of trees or walls, as foraging and commuting routes, it was concluded that the 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.

4.6 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended) while they are breeding. There was potential for the trees, shrubs and other vegetation around the site perimeter, to be used by birds for both roosting and nesting purposes, but no active nests were found, and it was presumed that most nesting activity will have ceased by this time of the year, (Refer to **Appendix 1**).

5. Recommendations

5.1 The proposed changes to the site as laid out in the planning application, are of minimal risk to roosting bats or nesting birds, and therefore, development can commence if the following mitigation measures are adhered to.

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, all parts of the church, (not considered suitable for hibernation), especially its roofs, should be worked on in winter to avoid the possibility of bats moving in and using the building 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, as it is likely that if the church 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 any ridge tiles, slates or sheeting over walls and gables, be 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 a part of a roof has been removed, the church should be left for two nights before modification continues. This will permit any bats present in cracks in the stonework at the top of a wall time to move off.

5.4 Although the church has low bat roosting suitability, it is recommended that if the building work is delayed until later in the year, or early next year, then further surveys may be required, including a suitable number of evening bat emergence surveys and a possible dawn re-entry survey.

5.5 If more than 12 months elapses between the current surveys, and any modernisation work, or roof removal, then surveys of the site must be repeated. Both the evidence and opportunity, and emergence surveys, need to be carried out under weather conditions suitable for normal bat activity, or carried out when bats are fully active (May to September but is weather dependent), and 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 some Schwegler 1FD bat boxes. These can be attached to the church after completion of the planned works, as well as to any surrounding suitable trees at a minimum height of 4m off the ground. Also, it is recommended that these measures are implemented as soon as possible to maximise the opportunities for wildlife at the site, (refer to **Appendix 7** for details).

5.7 As there was good potential for both roosting and nesting birds in the trees and shrubs around the site perimeters, it is recommended that where possible, these are to be left untouched, to encourage future bird nesting, and to maintain navigation, foraging and commuting routes for bats.

5.8 However, it must be remembered, that it is an offence to disturb active birds' nests. It is recommended therefore, that before any commencement of any tree or shrub clearance, and any new building 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, is 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.

5.9 It is recommended that some wooden nest boxes are erected around the site, amongst the shrubbery. 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 bird species, (refer to **Appendix 8** for details).

5.10 Before any shrub, 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).

5.11 It is also recommended that at least one 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 9** 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.

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

5.14 It is also recommended that, if any piles of building materials around the site perimeter, or anywhere within the site itself are removed, or disturbed during building works, then this ideally should be undertaken outside the hedgehog hibernating months, November to mid-March. If this is not possible however, a suitably experienced ecologist must be present to oversee all removal, to ensure that no hedgehogs are disturbed or harmed, whilst either hibernating or daytime nesting, (Hedgehogs are a UK BAP Priority species).

5.15 Once all building work has been finally completed within the site, then a complete careful search needs to be carried out amongst any remaining piles of building equipment or materials, to ensure that neither nesting birds or hedgehogs, are disturbed or hurt. Once this has been carried out successfully, only then can the removal of all materials from the site be carried out.

5.16 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.

5.17 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 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. References.

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

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

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

7. 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)

He was assisted on the surveys by Dylan Platt and Louise Fisher who were long-standing members of South Lancashire Bat Group, and experienced in the use of bat detectors and bat surveys.

8. Plans & Photographs

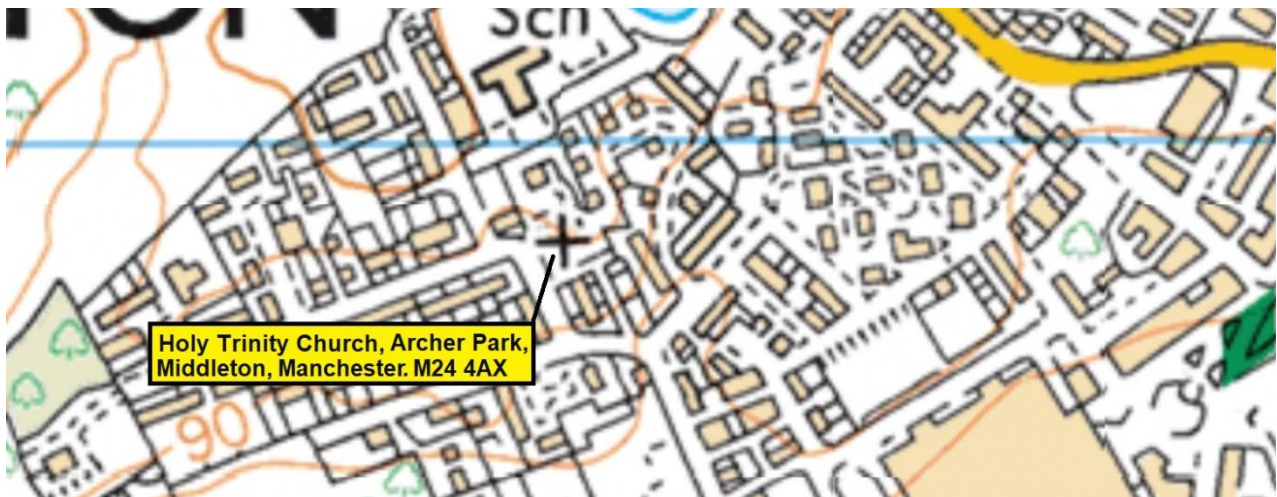


Fig 1 - The Site Location.



Fig 2 – Google Plan.

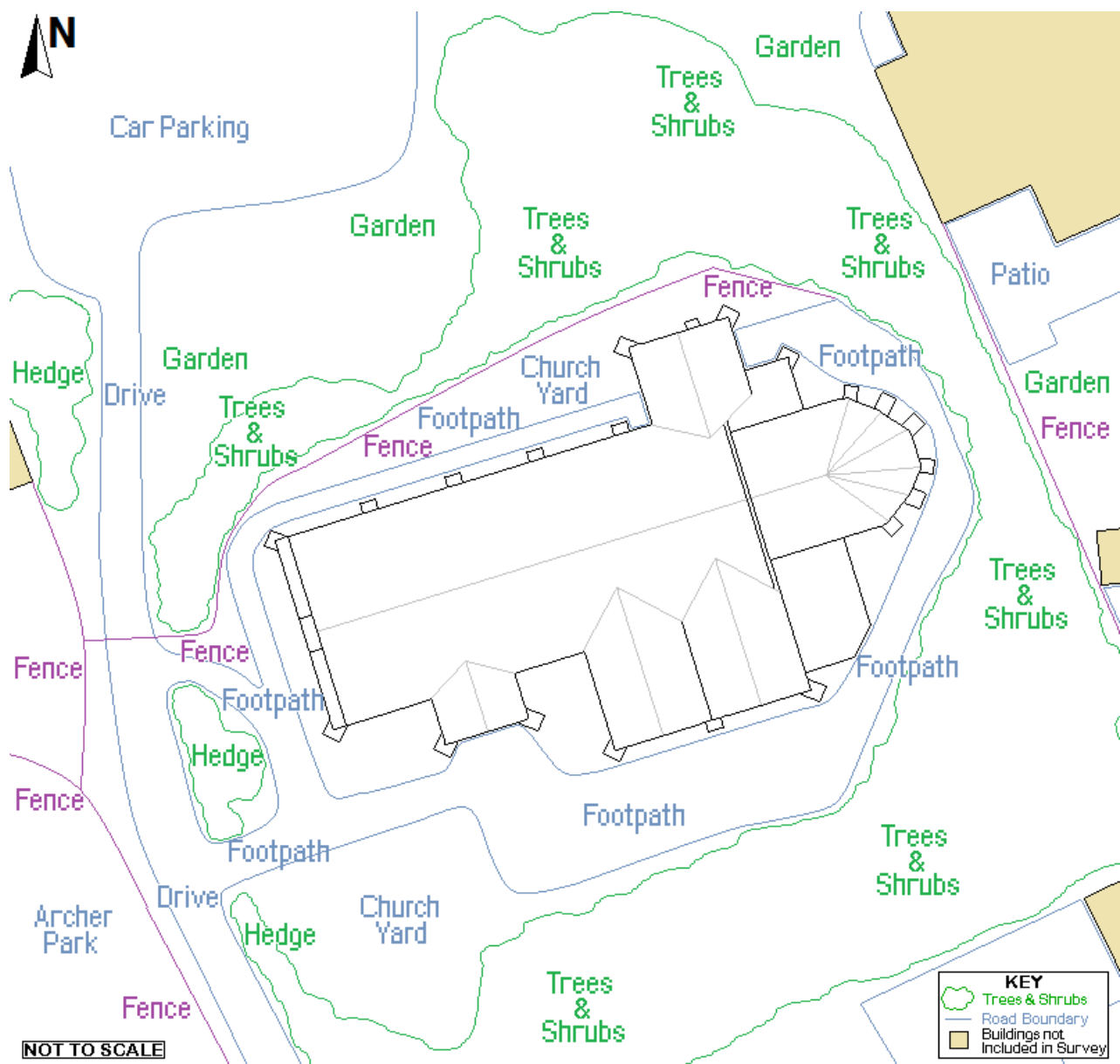


Fig 3 – Main Plan of Surrounding Area.

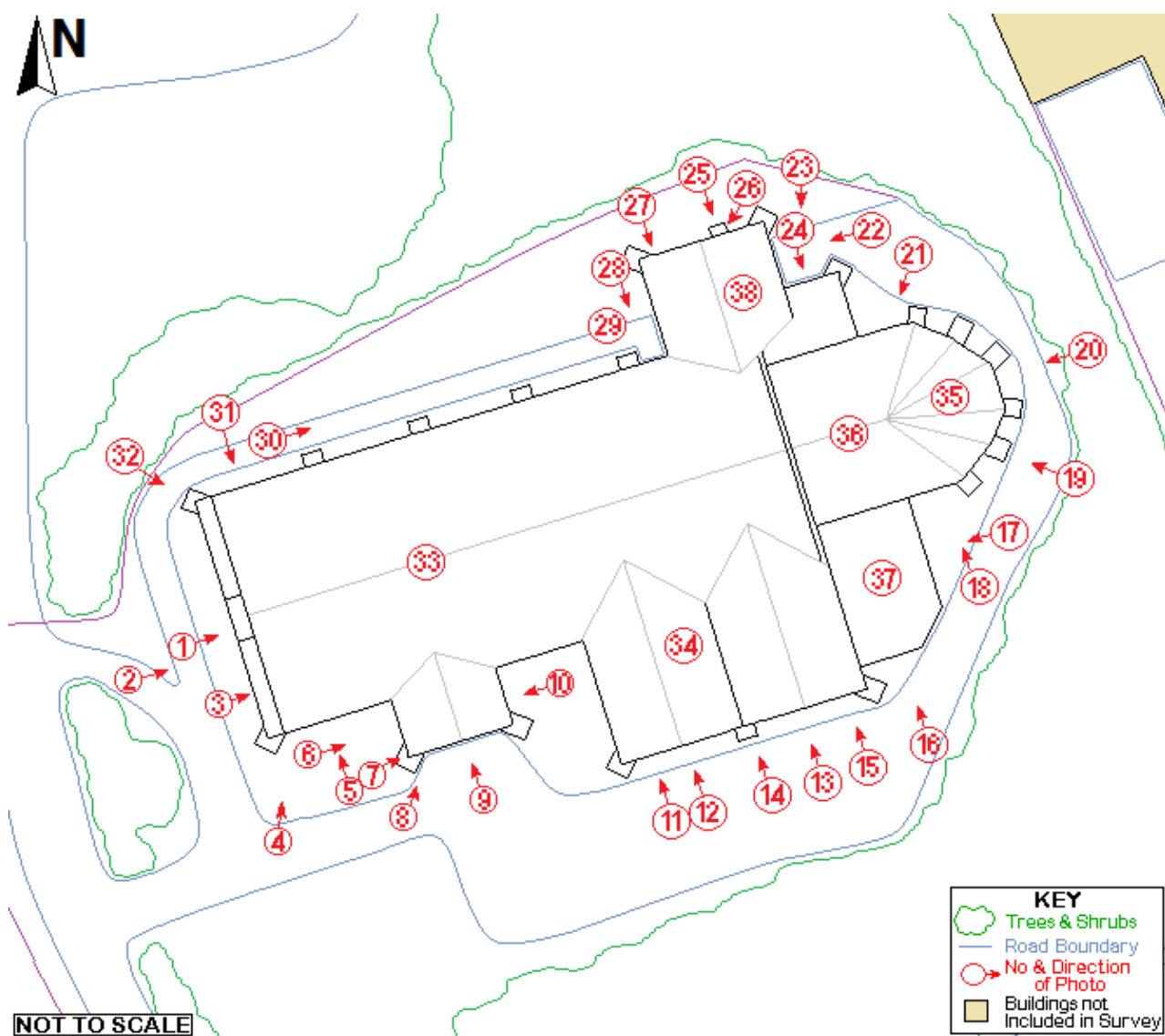


Fig 4 – Plan of Photographs.

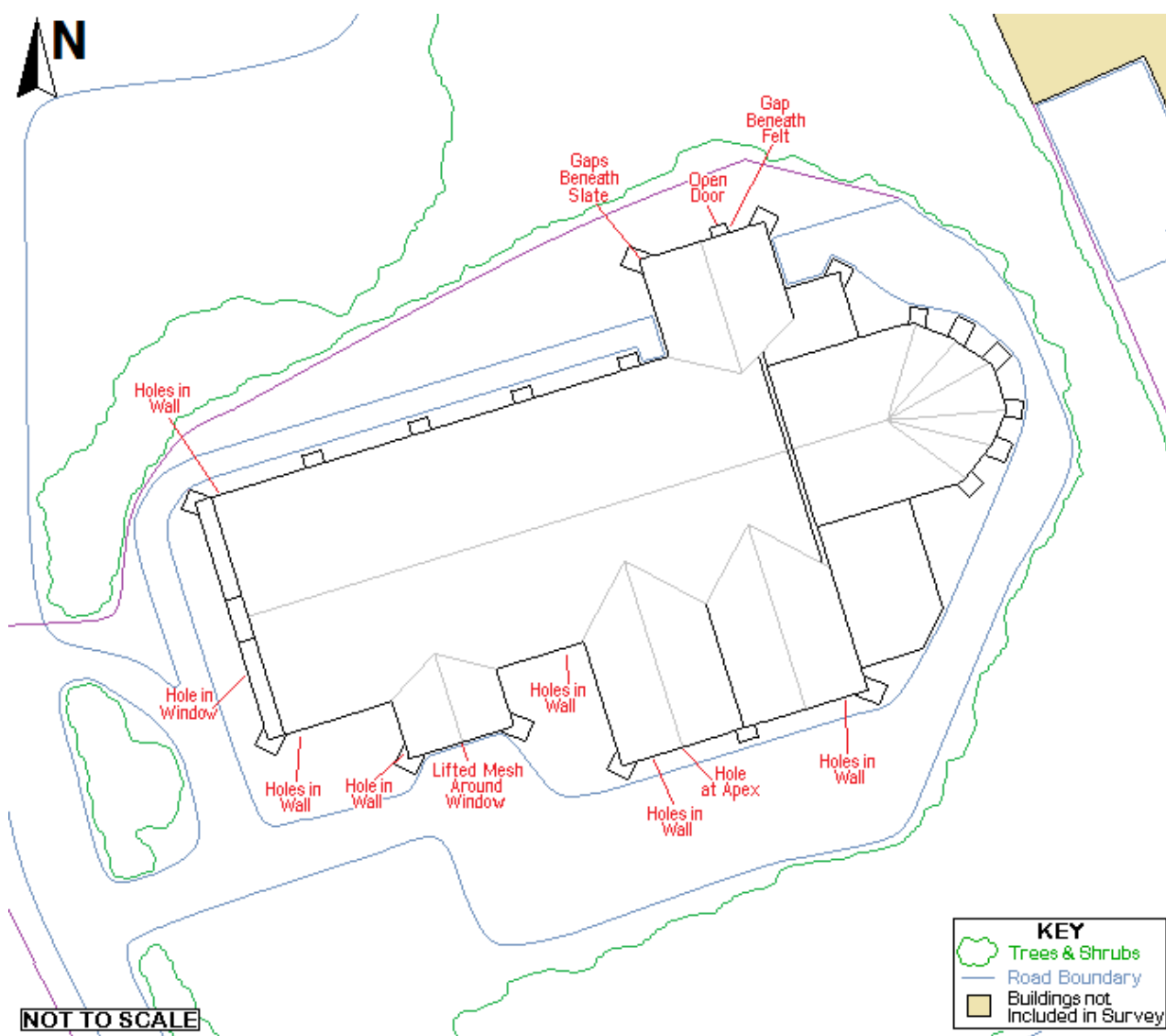


Fig 5 – Plan of Evidence and Opportunity Bat Survey Results

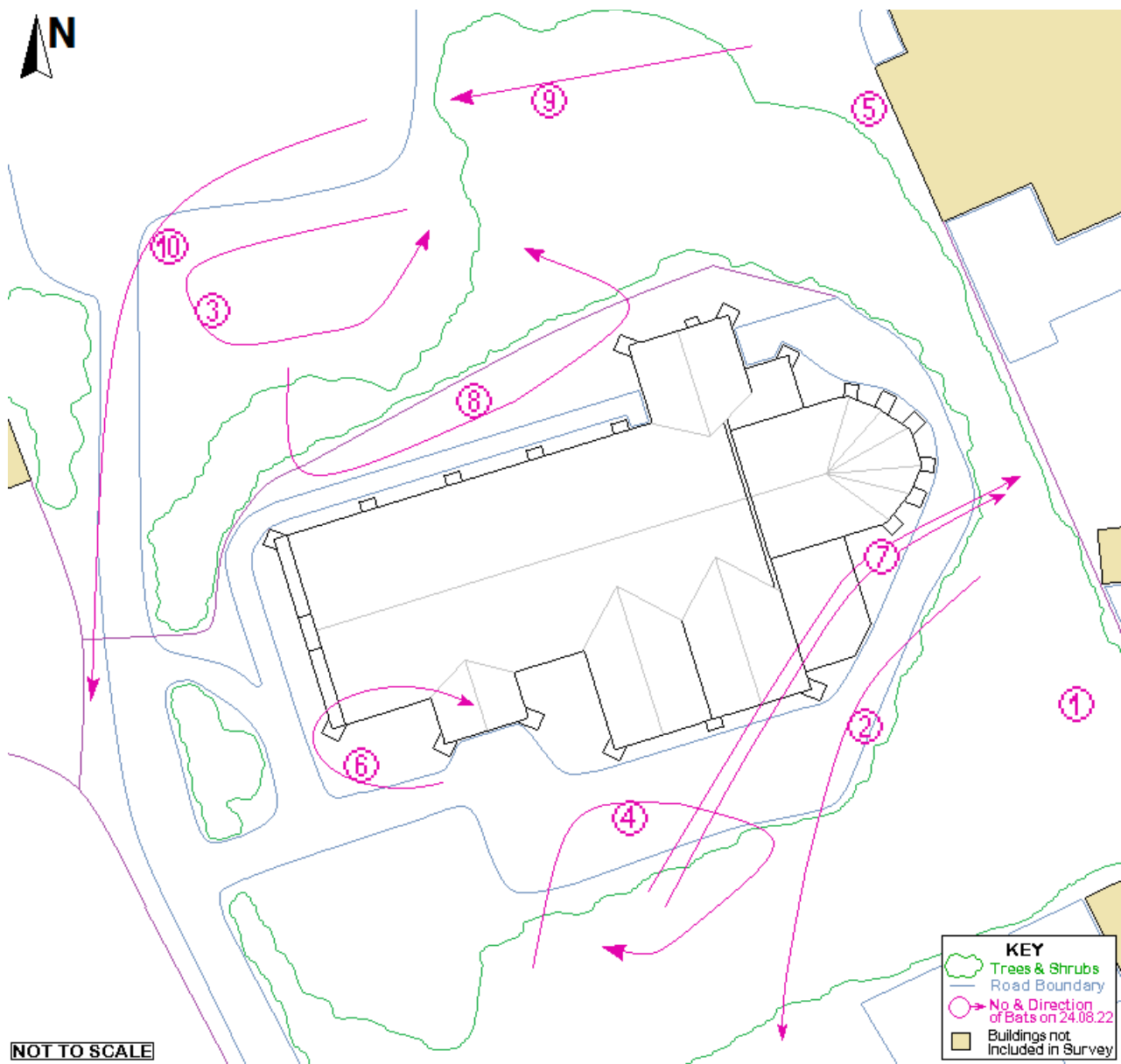


Fig 6 – Plan of 1st Evening Bat Emergence Survey Results.

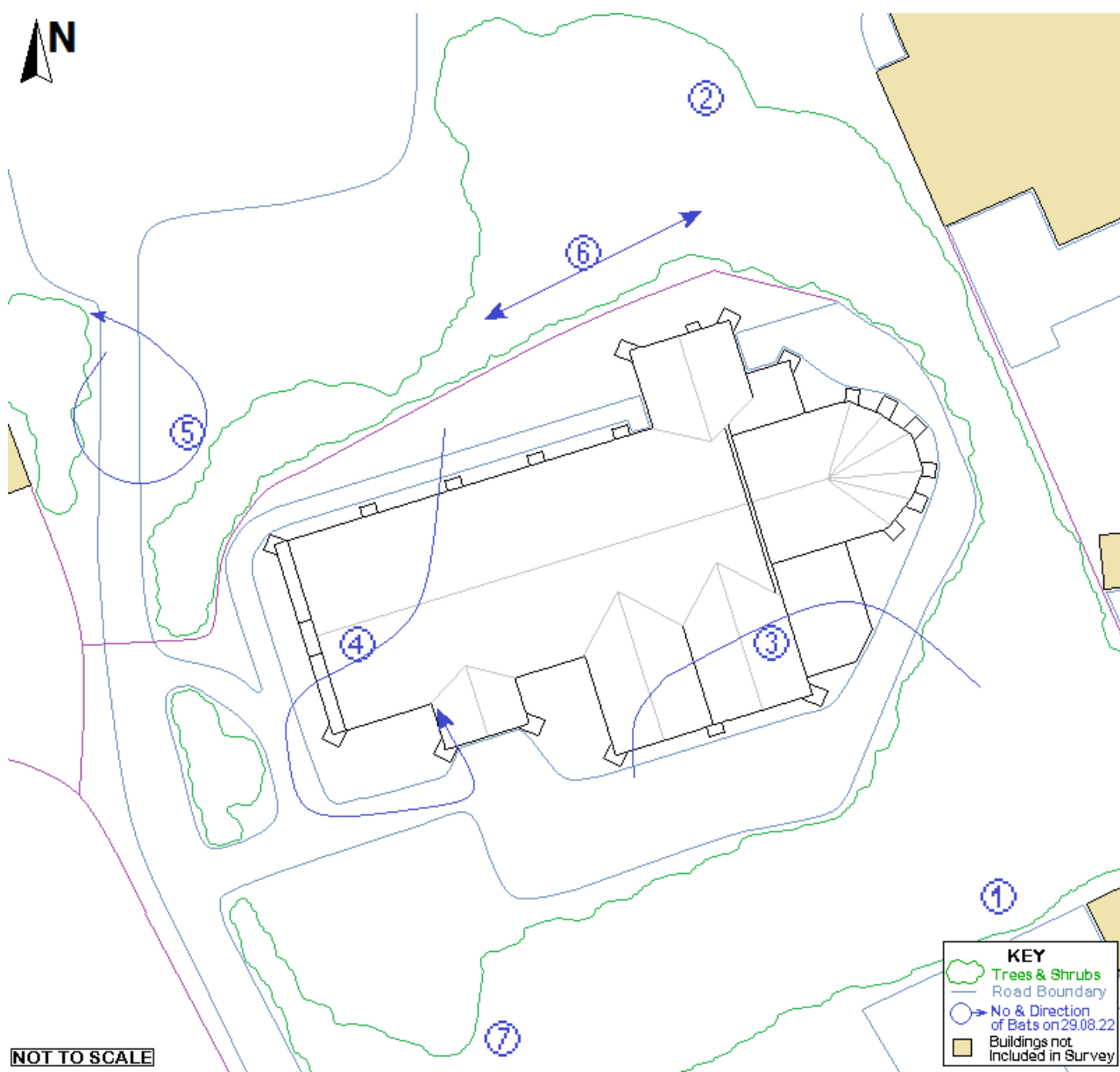


Fig 7 – Plan of 2nd Evening Bat Emergence Survey Results.

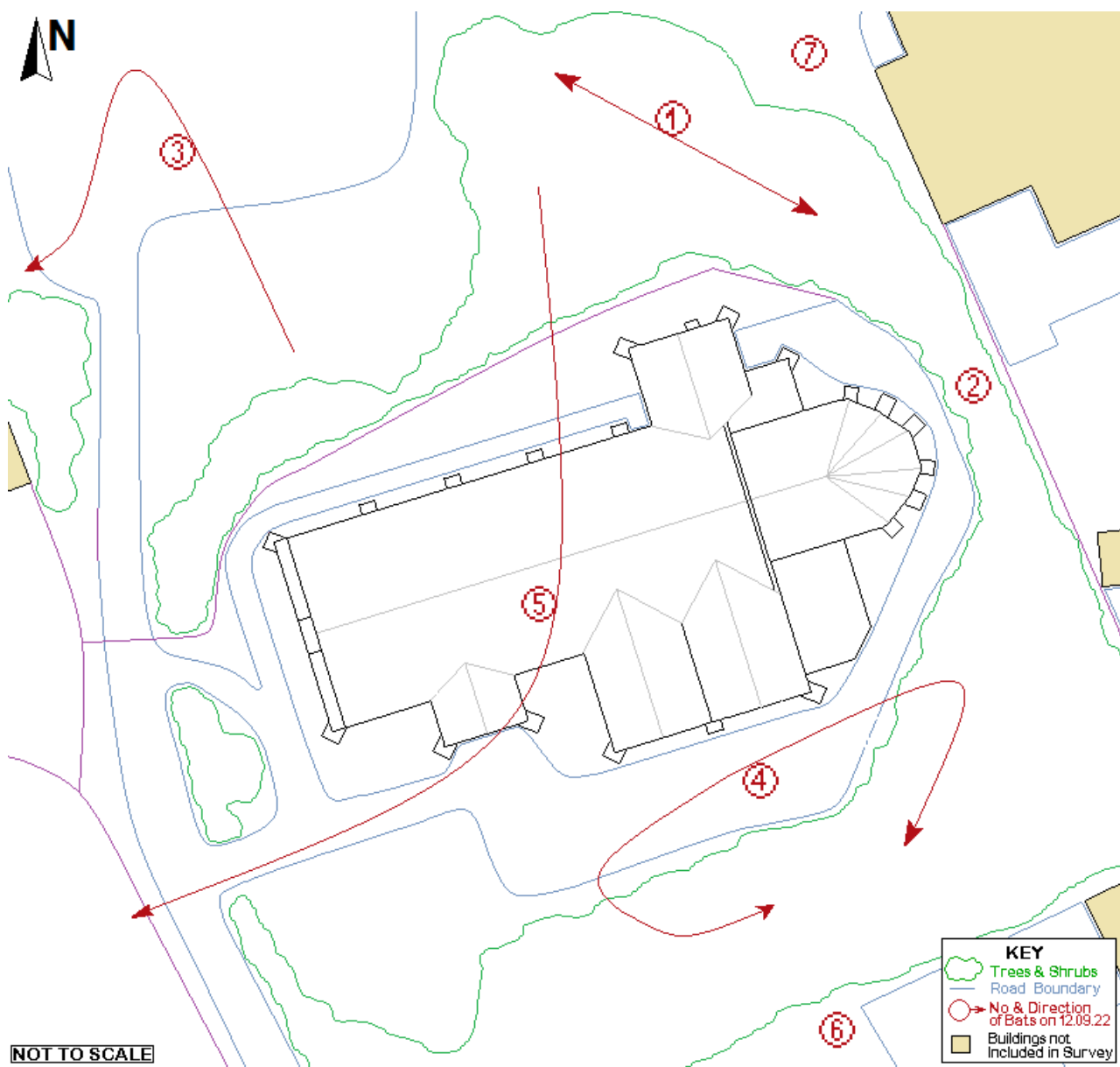


Fig 8 – Plan of Dawn Re-entry Survey Results.



PHOTO 1
Western View of Bell Tower



PHOTO 2
Western Gable



PHOTO 3
Western Elevation



PHOTO 4
South-western Elevation



PHOTO 5
South-western Corner



PHOTO 6
Western Elevation of Entrance Porch



PHOTO 7
South-western Corner of Entrance Porch



PHOTO 8
Southern Elevation of Entrance Porch



PHOTO 9
View of Southern Gable Over Entrance



PHOTO 10
Southern Elevation of Nave

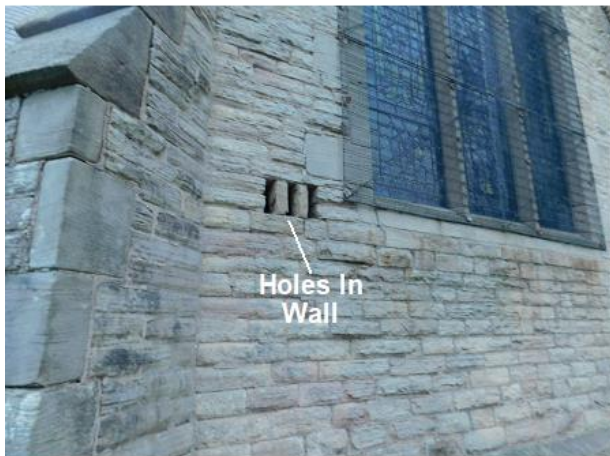


PHOTO 11
Western Elevation of Transept

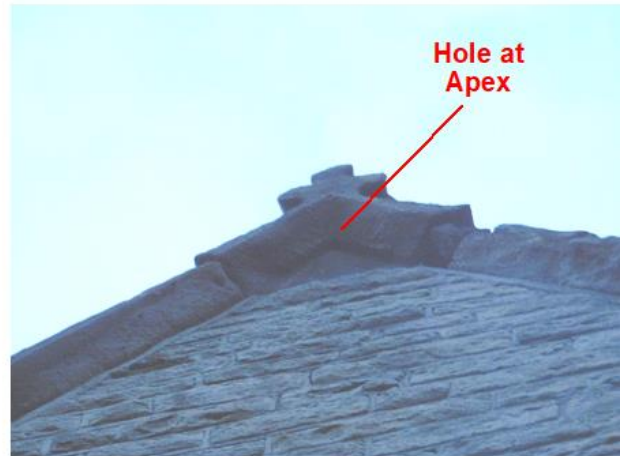


PHOTO 12
View of Western Transept Roof



PHOTO 13
Windows in Southern Elevation of Transept

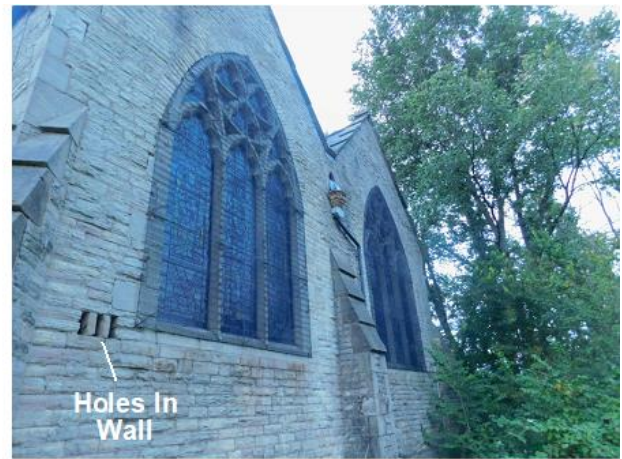


PHOTO 14
Southern Elevation of Transept

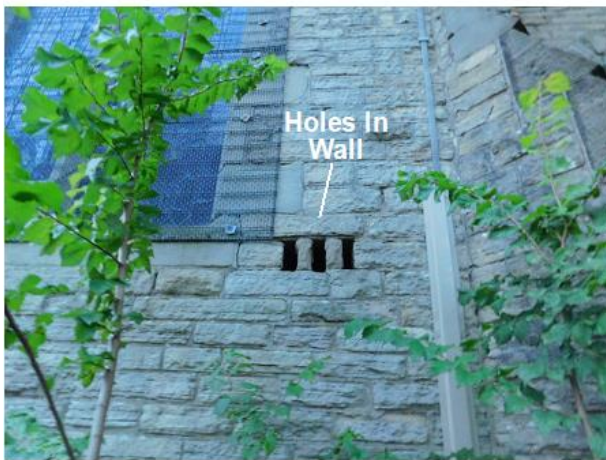


PHOTO 15
View of Typical Holes in Transept Elevation



PHOTO 16
South-eastern Corner



PHOTO 17
Eastern Elevation



PHOTO 18
Southern Elevation of Tower



PHOTO 19
South-eastern Corner of Tower



PHOTO 20
Eastern Elevation of Tower



PHOTO 21
North-eastern Corner of Tower



PHOTO 22
North-eastern Corner of Office



PHOTO 23
North-eastern Elevation of Vestry



PHOTO 24
View of Locked Cellar Door



PHOTO 25
View of Storage Shed



PHOTO 26
Eastern Elevation of Storage Shed



PHOTO 27
Junction of Vestry and Nave



PHOTO 28
Western Elevation of Vestry



PHOTO 29
North-eastern View Along Nave



PHOTO 30
North-western View Along Nave

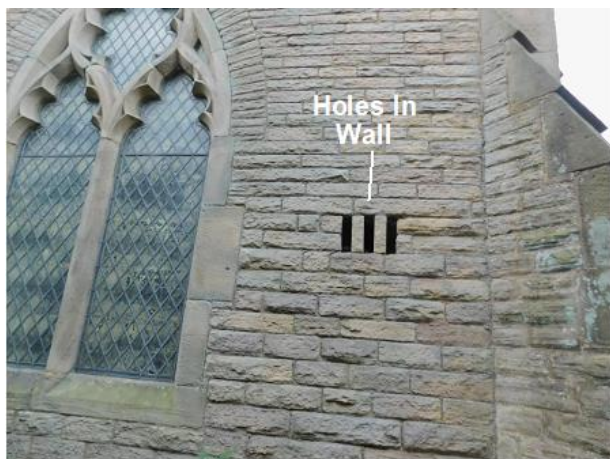


PHOTO 31
North-western Elevation



PHOTO 32
North-western Corner

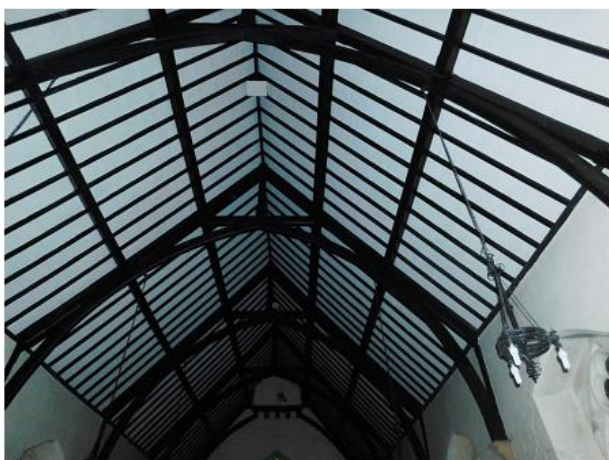


PHOTO 33
Underside of Nave Roof



PHOTO 34
Underside of Transept Roof



PHOTO 35
Underside of Tower Roof



PHOTO 36
Underside of Chapel Roof



PHOTO 37
Underside of Office Roof



PHOTO 38
Underside of Vestry Roof

16th September 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 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.

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.

Hedgehogs.

Hedgehogs are protected by British law under Schedule 6 of the *Wildlife and Countryside Act 1981*, making it illegal to kill or capture them using certain methods. Similar protection exists in Northern Ireland under Schedule 6 & 7 of the *Wildlife Order 1985*. They are also protected in Britain under the *Wild Mammals Protection Act (1996)*, prohibiting cruelty and mistreatment.

They're listed as a Species of Principle Importance in England under the *Natural Environment and Rural Communities (NERC) Act 2006* Section 41, in Wales under the *Environment Act 2016*, and in Scotland under the *Nature Conservation Act 2004*. Similarly, hedgehogs are on the Priority Species List for Northern Ireland.

Additionally, hedgehogs are on the Scottish Biodiversity list as 'Watching Brief Only' requiring monitoring to prevent decline.

These laws make hedgehogs a material consideration for Local Planning Authorities (LPAs) during the planning process.

Developments should also be consistent with Local Plans (LPs) and Neighbourhood Area Plans (NAPs), some of which may explicitly refer to hedgehog conservation and connectivity of the landscape.

APPENDIX 2: Bat Roost Suitability

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.^c	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^a and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

**In accordance with Table 4.1 of
Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition) (Collins. J. (ed) 2016)**

APPENDIX 3: Bat Survey Timings and Frequency.

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of surveys between May and August ^b	May to September ^a with at least two of surveys between May and August ^b

^a September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

Table 7.2 Recommended timings for presence/absence surveys.

Survey type	Start time	End time
Dusk emergence	15 minutes before sunset ^a	1.5–2 hours after sunset ^b
Dawn re-entry	1.5–2 hours before sunrise ^b	15 minutes after sunrise ^c

^a Survey start time should be adjusted on subsequent surveys if bats are recorded already in flight at 15 minutes before sunset on the first survey (or, if only one survey had been planned, this survey may then need to be repeated).

^b The possibility of late-emerging and early-returning species should be considered in setting times for surveys (see Section 3.5).

^c If bats are still in flight 15 minutes after sunrise then ecologists should remain in position until all the bats have entered their roosts.

Table 7.3 Recommended minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).

Low roost suitability	Moderate roost suitability	High roost suitability
One survey visit. One dusk emergence or dawn re-entry survey ^a (structures). No further surveys required (trees).	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. ^b	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either dusk or dawn. ^b

^a Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis (see Section 5.2.9). If there is a possibility that quiet calling, late-emerging species are present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period (see Table 7.1) as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more. A dawn survey immediately after a dusk one is considered only one visit.

**In accordance with Tables 7.1, 7.2 and 7.3 of
Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition) (Collins. J. (ed) 2016)**

APPENDIX 4: 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 5: 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 6: 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 7: Bats: Types of Bat Box.

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 8: 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 both robin, swallow and wren 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 wrens, robins and other box nest 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.

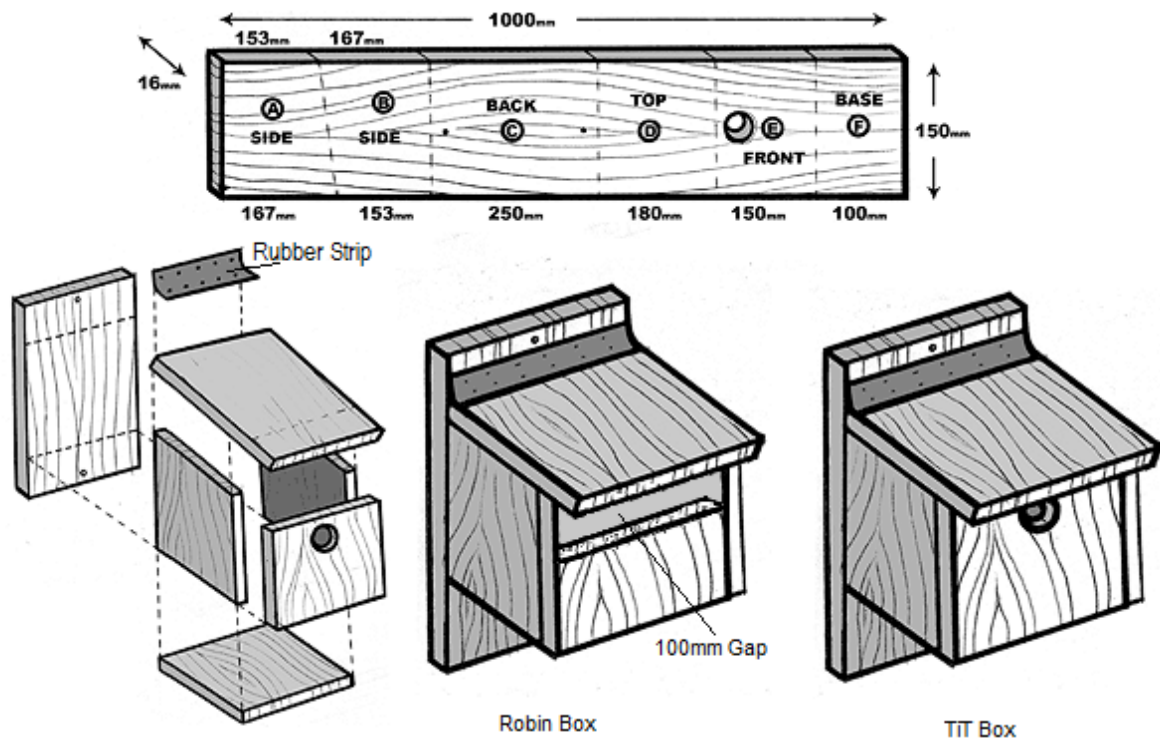
Do not nail down the lid as you will need to clean out the box in the autumn. Attach the lid with a brass or a plastic hinge that will not rust, or hinge it with a strip of leather or rubber (an old piece of bicycle inner tube will do). Fasten it down with a good catch.

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.