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Tyrer Ecological Consultants Ltd, Roselands, 3 Cross Green, Formby L37 4BH

Updated Dusk Survey Results

July 2023

Salem Chapel

Bank Street

Wrexham

LL14 1EN

National Grid Ref: SJ 2937 4688



Salem Chapel, Bank Street, Rhos, Wrexham, LL14 1EN
Updated Dusk Survey Results

Document Title	Updated Dusk Survey Results			
Prepared for	Blueprint Architectural Service Ltd			
Prepared by	Tyrer Ecological Consultants Ltd			

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Survey Dates	Dusk 1	07/06/2023	Dusk 2	21/06/2023
Reviewed by	Mr. J. Pescod Qualifying CIEEM			
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N.B. *Bat emergence/re-entry surveys are typically valid for a period of 12-18 months, at the discretion of the Local Planning Authority and/or Natural Resources Wales. Should your planning application not achieve consent, or a licence application (where required) not be applied for within this time period, updated surveys may be required.*

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1.0 Background and Introduction

- 1.1 As part of a proposed planning application at Salem Chapel, Wrexham, Tyrer Ecological Consultants Ltd conducted a daytime assessment in relation to bats and breeding birds during October 2016. As part of this survey a Preliminary Roost Assessment (PRA) was carried out, which concluded the following:

“Two dusk surveys are generally accepted as being an appropriate level of survey effort where ‘Moderate’ potential has been identified and roosting features identified are localised but may be increased subject to the results of those surveys. The two surveys need to be spaced between the months of May-August (see below for extract from Bat Conservation Bat Surveys: Good Practice Guidelines).”

- 1.2 Two dusk surveys were originally carried out in May and June 2017. The surveys identified the emergence of common pipistrelle bat/s emerging on both occasions and it was concluded that the building is used as a day roost by a maximum of two individuals. Two further surveys were conducted in August and September 2019, with a single common pipistrelle emerging from the northern elevation, at a previously identified roost location. A single updated survey was undertaken in September 2022, in which no bats were recorded emerging.
- 1.3 Following the expiration of these previous survey results, an additional survey was conducted in August 2021 which concluded no bat emergence from Salem Chapel.
- 1.4 It is understood that the planning application proposes the demolition of the existing structure followed by the construction of two residential dwellings.
- 1.5 Following a delay between the further bat surveys and commencement of the works, Tyrer Ecological Consultants Ltd were commissioned to undertake a suite of updated bat in line with the recommendations of the preliminary survey report; the surveys (two dusk emergence surveys) were carried out in June 2023 in accordance with current Bat Conservation Trust (BCT) Guidelines during the active season of bats (see **Figure 1.1**).

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

Figure 1.1 - Extract from Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016)

- 1.6 The results, conclusions and recommendations following the survey, including any indicative mitigation to inform an application to Natural Resources Wales for a European protected species mitigation licence (EPSML), where necessary, will be supplied within this report.
- 1.7 This report should be read, understood, and presented to the local authority as an additional document to **Appendix I-III** (see contents page).
- 1.8 In accordance with *Biodiversity Net Gain: Good practice principles for development* (CIEEM *et al*, 2019), measures have been recommended proportionate to anticipated impacts to ensure that the proposed development results in a biodiversity net gain.

2.0 Bats - Legislation & Policy

2.1 All British bats and their ****roosts**¹ are afforded protection under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579). When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the Regulations, that has a statutory duty as the local authority to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Use of Buildings by Bats

- a) Summer breeding roost (May-August)
- b) Hibernation roost (October-March)
- c) Transitional or temporary roost (Mainly spring/summer months)

Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance, climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

Policy

2.3 Planning Policy Wales (PPW) 11th Edition (2021) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which together with PPW provide the national planning policy framework for Wales. PPW, the TANs, MTANs and policy clarification letters comprise national planning policy.

2.4 PPW and the National Development Framework (published as Future Wales – the National Plan 2040) set out how the planning system at a national, regional and local level can assist in delivering these requirements through Strategic Development Plans (SDPs) and Local Development Plans (LDPs).

2.5 PPW (2021) states:

“The presence of a species protected under European or UK legislation, or under Section 7 of the Environment (Wales) Act 2016 is a material consideration when a planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat and to ensure that the range and population of the species is sustained. Planning authorities should advise anyone submitting a planning application that they must conform with any statutory species protection provisions affecting the site, and potentially the surrounding area, concerned. An ecological survey to confirm whether a protected species is present and an assessment of the likely impact of the development on a protected species may be required in order to inform the development management process. It is considered best practice that screening to determine the presence of protected species should be carried out by

¹ ******The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d) the term roost is not used but refers to “a *breeding site or resting place of such an animal*” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.

a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre."

- 2.6 Planning authorities must therefore follow a step-wise approach to maintain and enhance biodiversity and build resilient ecological networks by ensuring that any adverse environmental effects are firstly avoided, or minimized, or mitigated, and as a last resort compensated for; enhancement must be secured wherever possible.
- 2.7 The first priority for planning authorities is therefore to avoid damage to biodiversity and ecosystem functioning. Where there may be harmful environmental effects, planning authorities will need to be satisfied that any reasonable alternative sites that would result in less harm, no harm or pro-gain have been fully considered.
- 2.8 The Environment (Wales) Act 2016 ("the Act") - requires local planning authorities to have regard to area statements in the development of Local Development Plans. The Act introduced an enhanced biodiversity and resilience of ecosystems duty (Section 6 Duty). This duty applies to public authorities in the exercise of their functions in relation to Wales and will help maximise contributions to achieving the well-being goals. The Nature Recovery Action Plan supports this legislative requirement to reverse the decline in biodiversity, address the underlying causes of biodiversity loss by putting nature at the heart of decision-making and increasing the resilience of ecosystems by taking specific action focused around objectives for habitats and species.

Part 1 of the Act promotes sustainable management of natural resources, and in Part 1 section 6 states:

"A public authority must seek to maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions."

- 2.9 Policy EC6 of the Wrexham Unitary Development Plan mirrors these statements within PPW and goes on to state the following:

"Development either within or close to sites of biodiversity interest will only be permitted where it can be clearly demonstrated that the need for the development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such development is permitted, damage should be kept to a minimum, and compensatory measures should be provided. Measures to improve the biodiversity value of sites and enhance their natural conservation interest and landscape quality including the establishment of local nature reserves will be supported."

and...

"This policy applies to, in order of importance: nature conservation sites of international importance comprising Special Protection Areas, Special Areas of Conservation, and Ramsar Sites; nationally important Sites of Special Scientific Interest; regionally important Geological Sites; locally important Wildlife Sites; and other protected species and their habitats. The Council will require a survey to be undertaken in order to evaluate the impact of development on the intrinsic qualities of these sites. Local nature reserves comprising habitats of local significance can make a useful contribution both to nature conservation and to the opportunities for the public to see, learn about, and enjoy wildlife."

3.0 Protected Species in Wrexham

- 3.1 Up to twelve bat species have been recorded in Wrexham, many of which use built structures for roosting. A variety of building types and features are utilised by bat species at different times of year ranging from occupied residential dwellings to disused barns and bridges. The most frequently encountered species is the soprano pipistrelle bat (*Pipistrellus pygmaeus*); its abundant status in Wrexham is mirrored throughout the UK.

4.0 Survey Methods

- 4.1 Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) edition states:-

“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. The guidance should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”

- 4.2 Relative to the above the survey protocol has been determined using the collective and long standing experience of Tyrer Ecological Consultants Ltd and knowledge of the specific nature of the site.

Survey Protocol

- 4.3 The timing of the survey took place in June thus within the main active period of bats, at a time when maternity colonies have formed / returned to summer roosts and bats are in a highly active and social stage.
- 4.4 In accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), it is specified that: *“The bat active period is generally considered to be between April and October inclusive”*, though the period of May - August is the optimal most productive period that Natural Resources Wales accept bat surveys and grant European Protected Species Mitigation licences (EPSML).
- 4.5 The timing of the dusk surveys took place in June, at a time when bats have entered their active season and a period of the year when maternity colonies are forming at established bat roosts, following on from winter hibernation. The active season of bats is generally accepted as May – August across the industry.
- 4.6 Where bats are roosting, they are likely to be detected by the ecologists who are trained in the use of bat detector hardware and call analysis software (Analook / Kaleidoscope), and specifically how to detect bats and to correctly identify/disseminate bat calls.
- 4.7 Furthermore, at dawn, temperatures are usually lower than at dusk; as a result, bat activity can, in some locations, be less frequent. Additionally, where singular/small numbers of bats are present and there are no survey constraints then dawn surveys are of no more value than dusk surveys; singular bats can and do return to a roost before dawn and as a result a dawn survey would not record them anyway.

BCT issued an Interim Guidance Note in May 2022 in advance of a 4th edition of bat survey guidelines to be published in Summer 2022, which supersedes existing guidelines and states in relation to dawn surveys that:

“Whilst dawn surveys can reward surveyors with displays of dawn swarming behaviour, there is a concern that bats that have returned earlier will be missed...”

The 4th edition of the survey guidelines will therefore transition away from the standard use of dawn surveys, particularly as a method for presence/absence surveys in favour of dusk surveys supported by NVAs. The use of NVAs has the potential to improve the quality of dusk surveys,

providing clarity on exact emergence points and bat counts that might not otherwise be available because of the limitations of the human eye.”

- 4.8 Survey protocol should not be determined by parties who are 1) not familiar with the site, and 2) do not have a sufficient level of experience in relation to the undertaking of dusk/dawn bat surveys.
- 4.9 The number of surveys and surveyors was adequate relative to the roost potential that was identified during the daytime appraisal – i.e. **‘Moderate’** potential. Two surveyors were required to accurately monitor potential roost features (PRF’s) on the building at any one time; the locations and positions of the surveyors was in correspondence with the features that were identified during the daytime survey.
- 4.10 Surveyors were strategically positioned so that all elevations with bat roost potential, as described in the daytime report, could be observed without limitations. The surveyors were aided with Anabat, Batlogger, Echometer EM2, Peersonic, or equivalent electronic bat detectors that enable the locating and recording of the high frequency calls that are emitted by bats; echolocation calls were analysed the next day using Analook or equivalent computer software to verify field observations; where deemed appropriate by the attending ecologists, elevations were also surveyed via the use of a Night Visual Aid (NVA) Camera (Panasonic HC-VXF990) (or similar) – recordings would be subject to review the following day.

Survey Limitations

- 4.11 Following the completion of the further surveys, having carefully considered the results and conclusions derived from all surveys to date, no significant constraints were experienced that might hinder the gathering of ecological data on which to base sound conclusions and recommendations.

5.0 Results

A dusk emergence survey was undertaken on the 7th and 21st June 2023 by a total of four surveyors with two surveyors at any one time; surveyor credentials have been given within **Table 5.1**. **Tables 5.2-5.3** alongside **Figure 5.1** and **Figure 5.2** document the results of the dusk surveys.

Table 5.1 - Surveyor Credentials

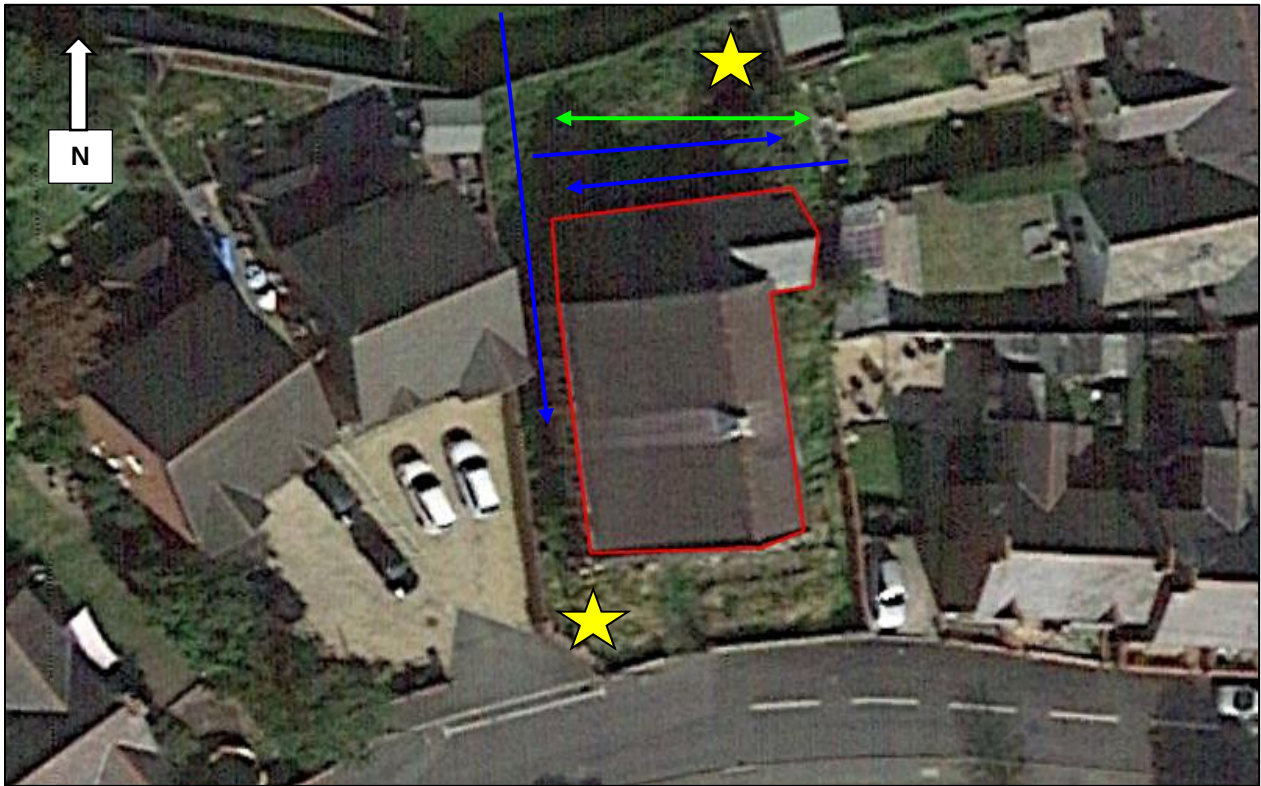
Name	Experience	Details
Mr. H. Green	30+ years	Highly experienced Bat Specialist and carer whom has professional surveying experience over decades with Tyrer Ecological Consultants Ltd - Class 2 Natural England Bat Licence (CLS-03290)
Mrs. R. Cripps	8 years	A highly experienced bat surveyor with several years' experience with Tyrer Ecological Consultants Ltd
Mr. M. Smith	7 years	A highly experienced bat surveyor with several years' experience with Tyrer Ecological Consultants Ltd
Miss. L. Wilde	1 year	A seasonal ecological consultant with experience of undertaking professional bat surveys

Table 5.2 – Survey dates, times and weather conditions

Time	Date	Weather Conditions
2116 -2236	7 th June 2023	Sunset: 2136: Dry, Gentle breeze, 10% cloud cover. Start temp: 12°C End temp: 11°C
2122 - 2242	21 st June 2023	Sunset: 2142: Dry, Gentle breeze, 50% cloud clover Start temp: 21 °C End temp 17 °C

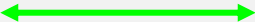
Table 5.3 – Dusk Survey Results

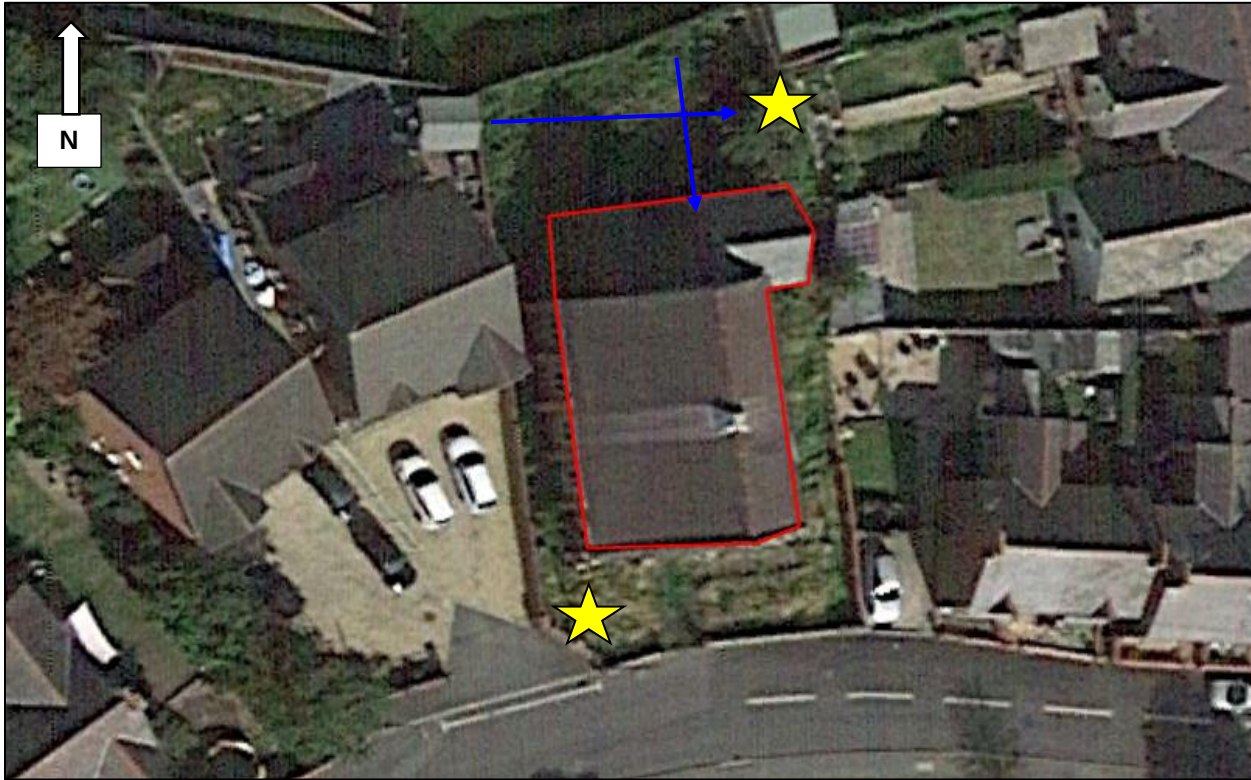
Dusk Survey	Time	Activity
7 th June 2023	2116 – 2236	Summary: No bat emergence for the duration of the survey 2153 hrs: A foraging common pipistrelle (CP) was recorded but not seen 2207 hrs: CP foraging to north of Site 2220 hrs: CP recorded but not observed 2225 hrs: CP commuting but not echolocating 2229 hrs: Soprano pipistrelle commuting General activity was comprised of foraging by x1 common pipistrelle and commuting by both common pipistrelle and soprano pipistrelle. .
21 st June 2023	2122 - 2242	Summary: No bat emergence for the duration of the survey 2211 hrs: CP passing over the rear of the building from the houses behind 2215 hrs: CP commuting to north of Site 2231 hrs: Myotis sp. passing over the rear of the Site General activity was comprised of commuting by x1 common pipistrelle and x1 myotis sp.



07/06/2023

Figure 5.1 – Visual Aid - Dusk Survey Results with Key

	Survey boundary		Foraging activity
	Surveyor positions		Commuting activity
	Directional compass		



21/06/2023

Key			
	Site Boundary		Commuting activity
	Surveyor Positions		Directional compass

6.0 Survey Conclusions & Recommendations

- 6.1 The updated survey results gathered by Tyrer Ecological Consultants Ltd conclude that Salem Chapel, Bank Street, is not currently being utilised by any bats of any species for roosting purposes. The site is host to frequent foraging in the rear garden and occasional commuting across the site by a maximum of one common pipistrelle, one soprano pipistrelle and one *myotis* sp. bat at a time. Based upon the evidence gathered during the updated dusk survey in August 2021, it is concluded that the previously identified bat roosts from under the roof slates and beneath the eaves are abandoned common pipistrelle Day roosts, no longer used by bats for roosting purposes based upon the robust survey techniques as described. In the 2017 surveys, the day roosts were only accommodating a maximum of one bat each, as a result, it is reasonable to conclude that the bats have abandoned the roosts at Salem Chapel.

Consideration has been given to the requirement for an application for European Protected Species Mitigation Licence (EPSML). However, a license is not always necessary if the work can be undertaken when bats are less likely to be present/ not present or will not be disturbed, or roosts/access points can be retained / re-instated during the process (English Nature Bat Mitigation Guidelines, 2004). On the basis of the updated results no bats will be disturbed through the proposed works, and furthermore, via implementation of mitigation suggested below, new roost provision will be incorporated to allow future use of the proposed development for roosting bats.

Licensing should typically be considered only as a last resort, where other avenues to avoid impacts on protected species have been explored and concluded unsuitable. Good practice and avoidance measures can, therefore, be applied in situations where potential impacts are considered to be low to negligible.

Notwithstanding this, it is recommended that prior to work being undertaken a bat licenced ecologist should be provided access to inspect under the roof slates and eaves along with any other areas of the building containing potential roost features at the ecologist's discretion; this inspection should be undertaken with the aid of torch light and endoscope. If current evidence/bat(s) are absent these areas will be either effectively sealed prior to work being undertaken or demolished immediately; however, should recent evidence or bat/s be observed during this time the area will be retained and a EPSML applied for to legally allow the work to commence.

- 6.2 As bats are highly transient species and can use buildings that offer potential roost features at any time of the year, it should be stated that if bats, or evidence of bats (see **Figure 6.1**), is found at any stage during the works then as a legal requirement the work at the site should immediately cease and a bat ecologist contacted for further advice.



Figure 6.1 - Bat droppings (left) and pipistrelle bat (right)

- 6.3 Installation of new lighting as part of a development scheme that exceeds current levels may have a negative impact upon foraging/commuting bats confirmed as present in the vicinity, particularly if increased light spillage occurs in areas currently free from illumination such as illumination of boundary features. There are several measures that can be used to offset impacts upon bats, where lighting is unavoidable; these include, however are not limited to, the light source used and luminaire design, and accessories to direct light at its intended target. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site. Refer to the Bat Conservation Lighting Guidelines for further strategic information if applicable.

7.0 Indicative Mitigation

- 7.1 The demolition of the building at Salem Road to allow the redevelopment of the land into two new dwellings is the key component of the applicant's plans for the site; however, it is recommended that roost provision is incorporated into the new dwellings.

Assigned Ecological Clerk of Works - EcOW

- 7.2 Prior to any work being undertaken the presence/absence bats as far as is possible will be established by undertaking detailed investigation of the areas at which bats have historically been observed using the building; typically, under the roof slates and eaves. The ecologist will supervise careful dismantling of all places that will be removed as part of the proposed work which have been identified as offering roost potential at the ecologist discretion. In addition, wherever opportunities for bats exist in other parts of the building the supervised dismantling will extend to these areas, with the understanding that should current evidence/bats are observed, works will cease immediately.

All dismantling of roost features will be undertaken during favourable weather conditions.

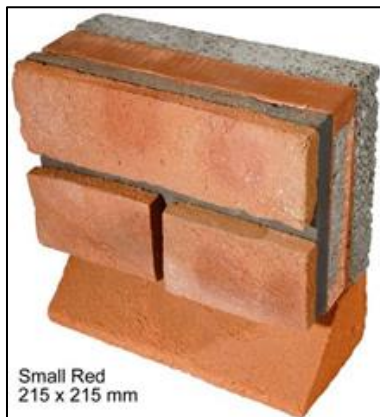
No increase in external lighting is expected during the conversion; should additional lighting be installed it must be directed away from any bat roost access points, flight paths and foraging areas.

7.3 Work undertaken by the Contractor

The following mitigation is indicative, and should be finalised subject to consultation with an ecologist prior to commencement of the construction phase. New roost provision will be incorporated into the southernmost new dwelling:

- One integrated bat box will be included within the construction of the southern gable end of the dwelling; this will recreate crevice roost potential to be lost during the demolition and provide new opportunities for bat species such as those of the Pipistrelle (*Pipistrellus spp.*) genus.

The Ibstock Enclosed Bat Box is designed for integration into the wall of new buildings and provides summer roosting opportunities for Pipistrelle bats. It contains several roosting chambers which provide zones of differing temperatures and has a sloped bottom to allow droppings to fall out, removing the need for maintenance. The box is available in three colours to match the construction of the new dwelling.



See: <https://www.nhbs.com/ibstock-enclosed-bat-box-b>

Enhancing a development site for Bats

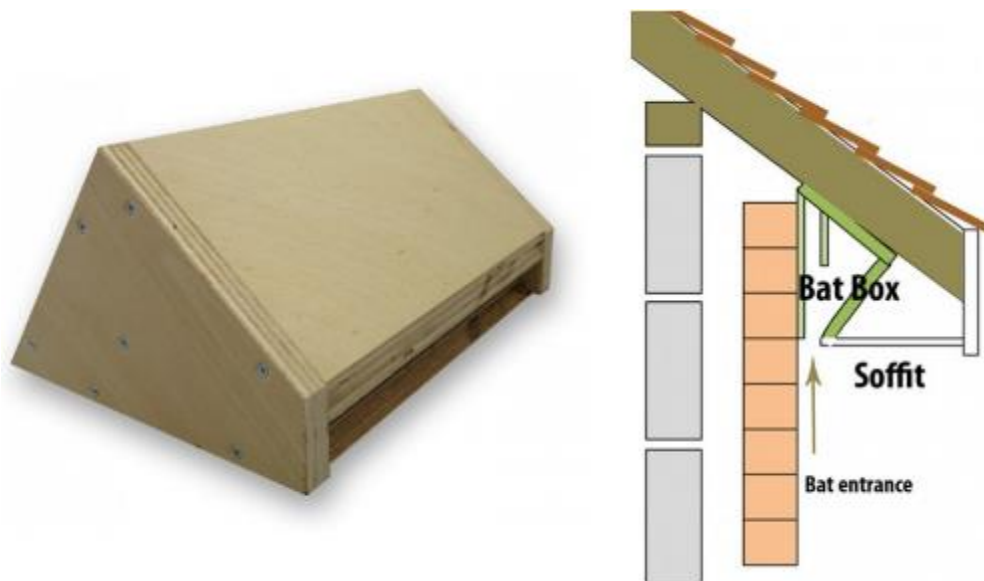
Integrated bat box

The Habibat Bat Box is a solid box made of insulating concrete with internal roosting space. The box blends seamlessly into brick-built properties and may be incorporated into the fabric of buildings, being best placed on gable elevations.



Soffit access

Where soffits are instated at gable elevations, roost provision may be instated in the form of a soffit bat box with internal roosting space.



Externally fitted boxes

A large number of externally fitted box models for bats exist for buildings and trees. Suitable models for both buildings and trees may include the Eco Kent Bat Box.

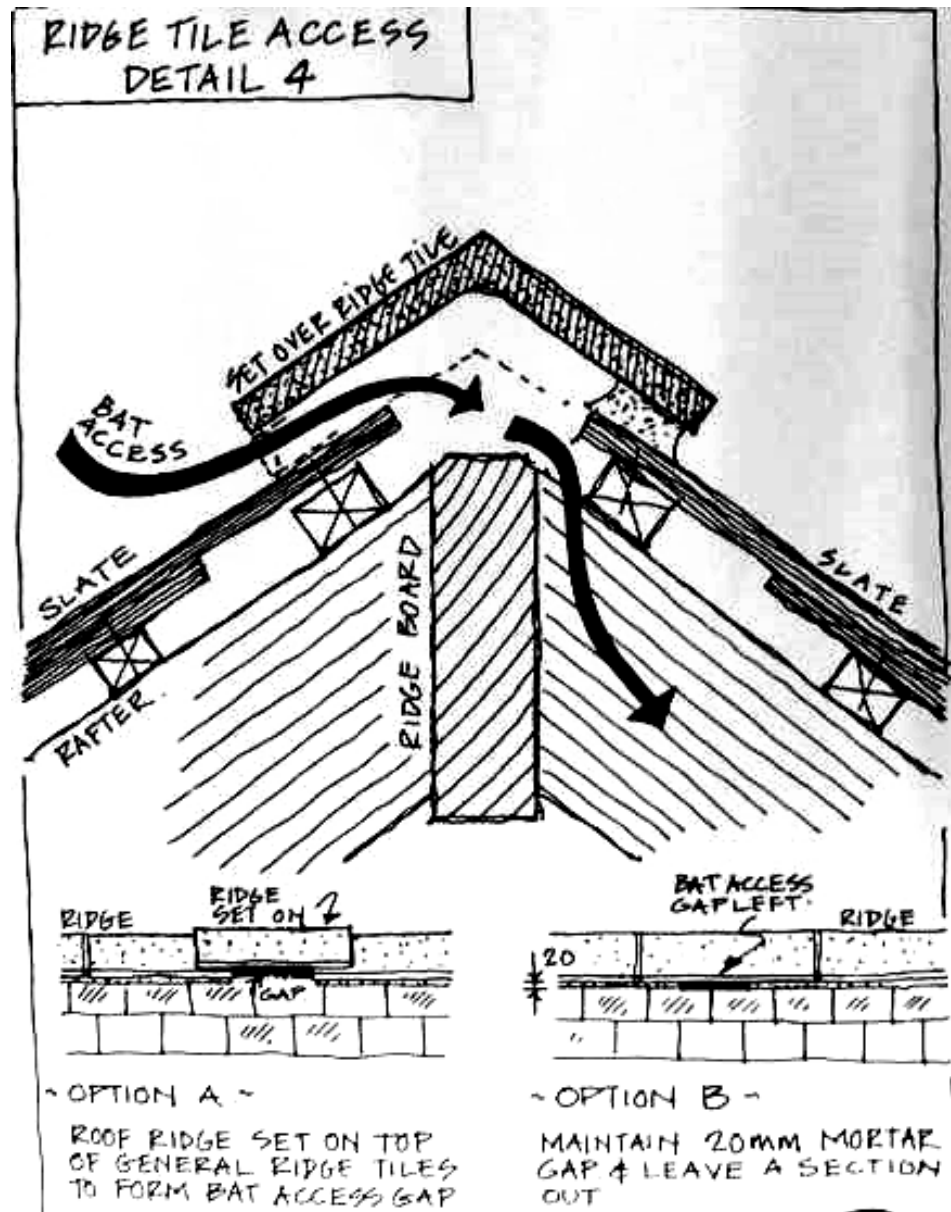


Ridge access

Where appropriated, ridge tile access should be made with the incorporation of traditional Bitumen 1F underfelt immediately beneath ridge tiles. Breathable BRM membrane can cause significant problems where bats are in contact with it, whereby their fine claws become entangled within the fibres of the membrane, entrapping and killing bats.

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8.0 References

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