

Updated Dusk Survey Results

April 2022

Salem Chapel,
Bank Street,
Rhos,
Wrexham,
LL14 1EN

National Grid Reference: SJ29374688



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Table of Contents

1.0 Background & Introduction

2.0 Bats - Legislation & Policy

3.0 Bats in North Wales

4.0 Survey Methods

5.0 Updated Dusk Survey Results

6.0 Updated Dusk Survey Conclusions & Recommendations

7.0 Indicative Mitigation

8.0 References

Appendix I: Summary of Indicative Mitigation

Appendix II: *Inspection & Assessment in Relation to Bats & Breeding Birds including Dusk Survey Results*, The Tyrer Partnership, 2017.

Appendix III: *Updated Dusk Survey Results*, Tyrer Ecological Consultants Ltd, 2019.

1.0 Background & Introduction

- 1.1 A planning application at Salem Chapel, Rhos, entails the demolition of an extant building with subsequent redevelopment to accommodate two new residential dwellings. An initial daytime inspection was undertaken in September 2016 and found two historical droppings which were attributed to bats from the *Pipistrelle* genus alongside a variety of potential roost features. The structure was therefore duly categorised as offering 'Moderate' bat roost suitability.
- 1.2 Following this initial daytime survey, two dusk emergence surveys were conducted in 2017 in May/June by The Tyrer Partnership (now Tyrer Ecological Consultants Ltd). These surveys concluded that Salem Chapel was in use as a day roost by Common Pipistrelle (*Pipistrellus pipistrellus*) bats, with two bats recorded to emerge from the structure.
- 1.3 Due to a delay in development, Tyrer Ecological Consultants Ltd were further commissioned to carry out an updated set of dusk surveys in the August/September period in 2019. These surveys concluded again that the building was host to a day roost for Common Pipistrelle bats, with one bat recorded as emerging from the structure.
- 1.4 Due to the lapse in time since these dusk survey results, Tyrer Ecological Consultants Ltd were subsequently commissioned to conduct a further updated bat survey during September 2021; these surveys were conducted in line with Bat Conservation Trust (BCT) guidelines (see Figure 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 – Bat Conservation Trust extract on Moderate roost potential requirements

- 1.5 A mitigation plan has previously been created for the destruction of the prior identified *Pipistrelle* roost and can be found in Section 11.0 of the Tyrer Partnership Report (see Appendix I).



Figure 1.2 – Site plan showing the location of Salem Chapel outlined in red (Source: Google Earth Pro 2021/22)

2.0 Bats - Legislation & Policy

Bats

- 2.1 All British bats and their ****roosts** are afforded full protection under the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of the Conservation of Habitats and Species Regulations (2019) (EU Exit). When dealing with cases where a European Protected Species (all UK bats) may be affected, a planning authority is a competent authority within the meaning of Regulation 7 of the Regulations, and therefore 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 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.
- 2.3 Use of Buildings by Bats
- a) Summer breeding roost (May-August)
 - b) Hibernation roost (October-March)
 - c) Transitional or temporary roost (other months)
- 2.4 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.

*** 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.*

Policy

- 2.5 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.
- 2.6 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).
- 2.7 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 a competent ecologist on the basis of data provided by the relevant Local Environmental Record Centre.”*
- 2.8 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.
- 2.9 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.
- 2.10 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.”

- 2.11 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 eleven 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 Common Pipistrelle bat (*Pipistrellus pipistrellus*); 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.”

Relative to the above the survey methods and protocol adopted were determined using the collective and long standing experience of Tyrer Ecological Consultants Ltd and knowledge of the specific nature of the site.

Survey Protocol

- 4.2 The timing of the dusk survey took place in September, at a time when bats are towards the end of their active season and a period of the year when bats are in the process of dispersing from maternity roosts to transitional/temporary roosts in preparation for hibernation.

- 4.3 Where bats are roosting, they are likely to be detected by the ecologists, trained in the use of bat detector hardware and call analysis software (Analog / Kaleidoscope) in how to detect bats and how to correctly identify/disseminate bat calls.
- 4.4 When considering survey protocol, the decisions about whether dusk or dawn surveys are selected are based on the extensive experience of the Tyrer Ecological Consultants Ltd, the nature of the building and species that can be anticipated as being present either at the property or in the locality and how complex a building is relative to observations. In this case the bat roost potential that exists at Salem Chapel presents no problems for dusk observations; if a building is complex, or observations were restricted, or species that are difficult to detect at dusk are suspected then dawn surveys would be conducted. At Salem Chapel there are no visual constraints and to date there is no evidence to suggest the presence of such species.
- 4.5 It should also be noted that 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. Dawn surveys are more productive when “back tracking” bat to a roost from foraging grounds.
- 4.6 Survey protocol should not be determined by parties who are 1) not familiar with the site, and 2) do not have a sufficient level or experience in relation to the undertaking of dusk/dawn bat surveys.
- 4.7 The number of surveys and surveyors was adequate relative to the roost potential that was identified and also taking into consideration the survey effort that has been completed during 2017, 2019 and now 2021. Two surveyors to accurately monitor potential roost features (PRF's) across the survey building at any one time.
- 4.8 Surveyors were strategically positioned so that all elevations with bat roost potential could be observed without limitations. The surveys were aided with Anabat electronic bat detectors that enable the locating and recording of the high frequency calls that are emitted by bats, along with Bat logger and Peersonic RPA3 detectors; echolocation calls were analysed the next day using Analog and Kaleidoscope computer software to verify field observations.

Survey Limitations

- 4.9 Only one dusk emergence survey was completed in 2021, this was due to the time of year the survey was undertake combined with the level of data collected previously – the lack of change to the structure, internal space and climactic conditions of the building have not changed, it was therefore not deemed necessary to conduct a further survey as it would be unlikely to provide any further information / change the categorisation in that the building is host to Common Pipistrelle day roost.
- 4.10 Following the completion of the survey, 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 Updated Dusk Survey Results

- 5.1 One dusk emergence survey was undertaken on the 9th September 2021 by two surveyors, as per Table 5.1 below. See Table 5.2 - 5.3 for survey results.

5.2 See associated imagery overleaf (Figure 5.1) for visual aid in respect of survey results.

Table 5.1 – Surveyor Credentials

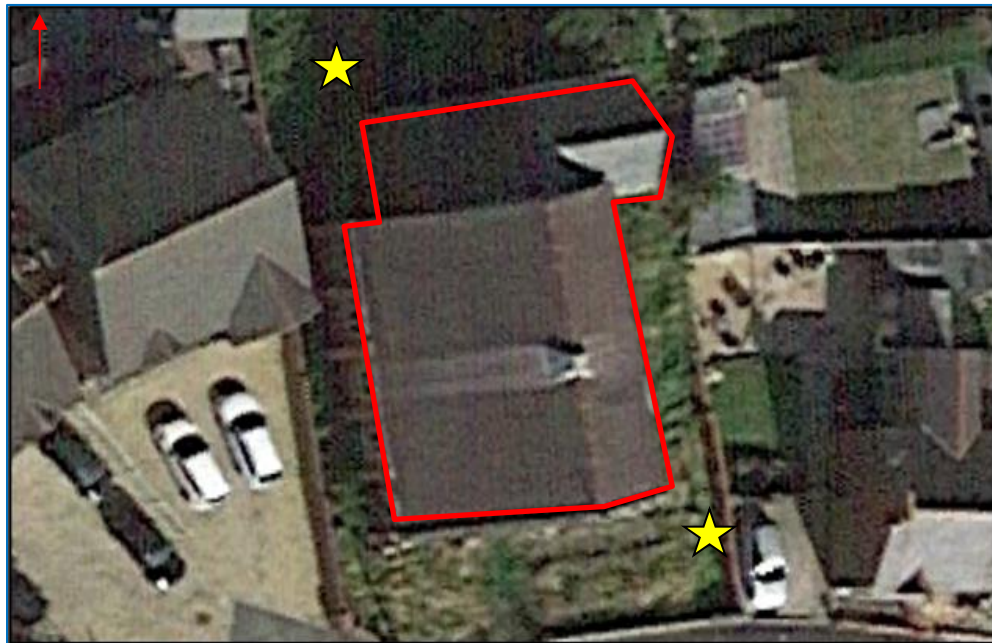
Name	Experience	Details
Dusk survey		
Ms. H. Taylor-Boyd	8 years	A highly experienced bat surveyor with several years' experience with Tyrer Ecological Consultants Ltd
Mr. D. Boyd	8 years	A highly experienced bat surveyor with several years' experience with Tyrer Ecological Consultants Ltd

Table 5.2 – Survey date, time and weather conditions

Times of Survey	Date	Weather Conditions
Dusk survey 1930 - 2115	09/09/2021	Sunset: 1942: Light rain spell at beginning of survey, gentle breeze, 100% cloud Start temp: 18 ° C End temp: 16 ° C

Table 5.3 – Dusk Survey Results

Dusk Survey	Time	Activity
09/09/2021	1930 - 2115	Summary: No bat emergence for the duration of survey. . No activity recorded.



Key			
	Survey Boundary		Directional Compass
	Surveyor Positions		

Figure 5.1 – Visual dusk survey results 09/09/2021 (adapted from Google Earth Pro 2021/22)

6.0 Updated Dusk Survey Conclusions & Recommendations

6.1 Following the multiple survey efforts by Tyrer Ecological Consultants Ltd at the property over the course of 5 years, it is concluded that Salem Chapel is host to a Common Pipistrelle day roost and is being utilised by a maximum of two bats.

6.2 Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) describes a 'Day roost' as:

“a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer’.”

6.3 The destruction of this bat roost will therefore need to be addressed from both a conservation and legal perspective alongside the application on an appropriate mitigation scheme. A European Protected Species Mitigation Licence (EPSML) will be required to legally destroy places that are actively used for breeding, rest or shelter (roost) by bats.

6.4 So that the LPA can implement its obligations under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), appropriate and proportionate mitigation will need to accompany the planning application which will demonstrate that the “favourable conservation” of the species concerned can be maintained.

- 6.5 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 From the evidence gathered during both dusk surveys, the use of Salem Chapel by bats is considered to be of 'low' local significance relative to Common Pipistrelle bats and their current status (as according to *English Nature: Bat Mitigation Guidelines*, 2004); the proposed mitigation is proportionate to that use. However, if at any time that assessment is revised to a higher level, then the mitigation will also be accordingly revised.
- 7.2 The following procedures and mitigation recommendations are designed to allow the Local Planning Authority (LPA), in association with their ecological advisors, to determine a Planning Application where a European Protected Species has been identified and will be affected by the work for which the Planning Application seeks consent.

In addition, Local Planning Authorities, in accordance with the obligations placed upon them by way of their duties under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), have to take into consideration the presence of a European Protected species (EPS) before determination of an application where it/they have been identified.

- 7.3 The LPA will consider the mitigation in relation to the potential success of a Natural Resources Wales licence application and if, in their opinion, the mitigation is considered as being appropriate, or if it is over and above what is required; if they determine that the mitigation is appropriate, then a Planning Condition should be attached, requiring the roost provision to be implemented.

If the LPA consider that the mitigation is over what is necessary but require "enhancement" as part of their Local Biodiversity/Net-Gain Planning Policies, this should be included in the terms of Consent. The acting bat ecologist, in this case, deems the proposed new roost creation as appropriate and not over and above what is required.

- 7.4 Notwithstanding that Planning Consent is granted, or equally if the work is undertaken outside of the planning system, whereby projects that do not require planning consent may affect bats or their roost (including disturbance), it does not absolve the applicant, site owner, developer or any other party involved with the work from ensuring that an application is made for a Natural Resources Wales Development Licence to legally undertake work that will affect bat(s) or their roost(s).

If work is undertaken without a licence and bat(s) or their roost(s) is/are affected, then a breach of current wildlife legislation will occur, for which penalties are severe.

- 7.5 Under Regulation 53(1) and 56(3)(a) of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), a licence is required prior to disturbing bats or destroying/damaging or obstructing any place that is used by bats as a resting place or breeding site. The licence is issued by the EPS Licensing Team of Natural Resources Wales.

8.0 References

- **Bat Conservation Trust (BCT)**, 2018. *Bats and artificial lighting in the UK: Bats and the Built Environment series*. Available from: <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>
- **CIEEM et al**, 2019. *Biodiversity Net Gain: Good practice principles for development*. Available from: www.cieem.net/data/files/Publications/Biodiversity_Net_Gain_Principles.pdf
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- **Google Earth Pro**, 2022. Available for download from: <https://www.google.com/earth/download/gep/agree.html?hl=en-GB>
- **Mitchell-Jones, A. J.**, 2004. *Bat mitigation guidelines*. External Relations Team, English Nature, Northminster House, Peterborough, PE1 1UA.
- **Mitchell-Jones, A.J. and McLeish, A.P.** (Eds) (2004). *Bat Workers' Manual*, Joint Nature Conservation Committee, Peterborough.

Appendix I: Summary of Indicative Mitigation

- Prior to any work being undertaken the presence/absence bats will be established by undertaking detailed investigation of Salem Chapel, which will include endoscopic examinations wherever opportunities for bats exist.
- To ensure that bats are not left without a roost while the demolition work takes place, it is recommended that one pole-mounted 2F bat box is erected to the most northerly aspect of the site; it will be retained during the work schedule and will act as a receptor if bats have to be captured during the demolition process. Following completion of the development, installed mitigation, and subsequent checks by a licensed bat ecologist to ascertain the absence of bat/s it may then be removed.
- No foraging or commuting habitat will be lost as a result of the proposals nor will the new roosts be at any further distance from foraging places. The demolition of the building is an essential part of the owner's plans for the site, but it is acknowledged that the presence of bats needs to be addressed from both a legal and conservation perspective. The mitigation proposals are seen to be the most productive way forward that will retain opportunities for bats.
- The ecologist will supervise careful dismantling of all places identified as offering roost potential where exclusion is unlikely to be successful and cannot be relied upon.
- Work undertaken during appropriate climatic conditions.
- Ecologist to undertake induction on possible bat presence, License & Method Statement to be kept on site for the duration of the work.
- As a precaution a licensed bat ecologist will supervise the dismantling of the roost with strategies for safely removing bat(s).
- External lighting not to be greater than what exists and where present is to be directed away from bat roost access points, flight paths and foraging areas.
- Mitigation subject to the approval of Natural England.
- The roost provision at the newly constructed house will be dedicated for bats and permanent.

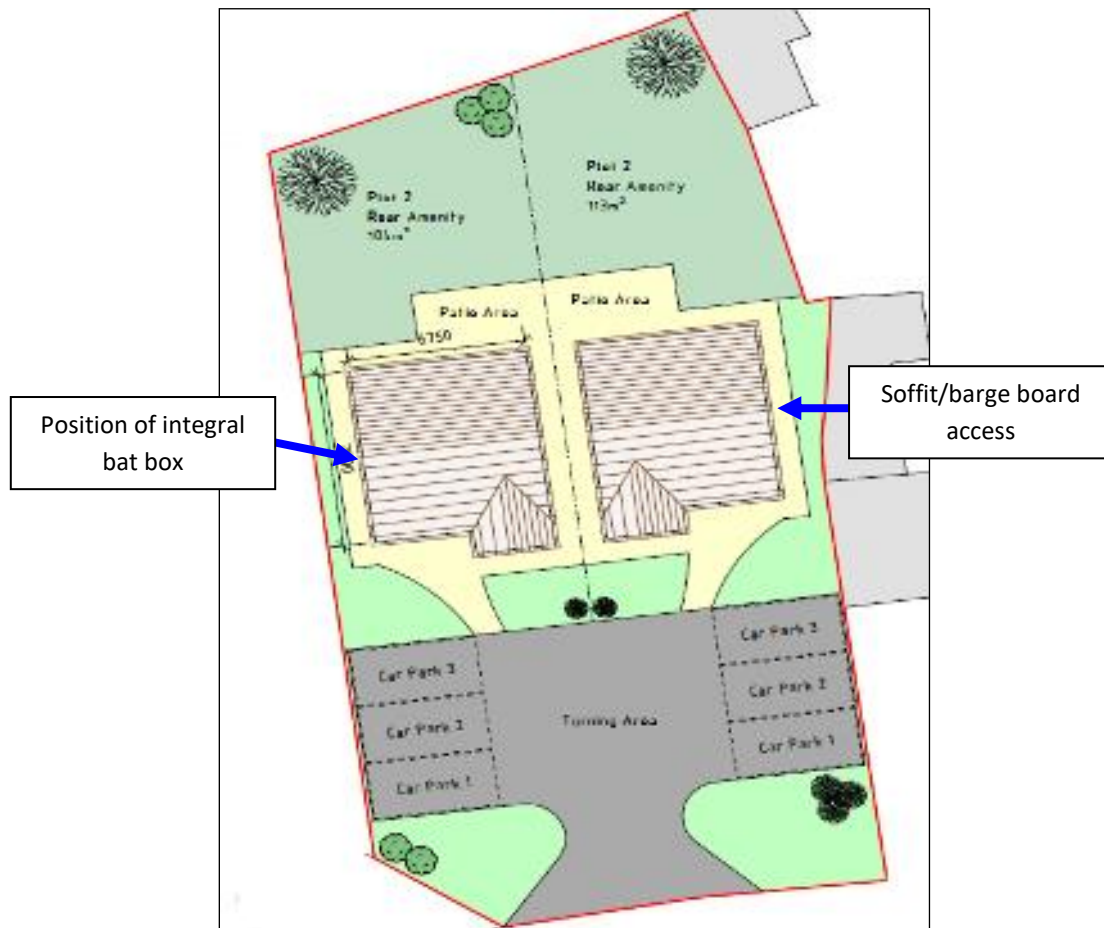
Work undertaken by the Ecologist

Capture/Exclusion: Once an EPSML licence is in place, the contractor will provide a safe means of access to allow the ecologist to investigate all roost potential for bat presence at Salem Chapel.

Due to the numerous areas of bat roost potential, exclusion is considered to be unproductive, thus the ecologist will supervise careful and controlled removal of bat roost area(s). In the event of bat(s) being present it/they will be removed, placed in a secure box with soft tissue and immediately transferred into the bat box that will have previously been erected on either the building to the north or pole mounted on site. Once it has been established by the ecologist that bat(s) are absent the demolition will continue to completion.

In the unlikely event that bats are found outside of supervision time, then work will immediately cease and the ecologist contacted for further advice; contractors must not touch, handle or in anyway cause bats to move.

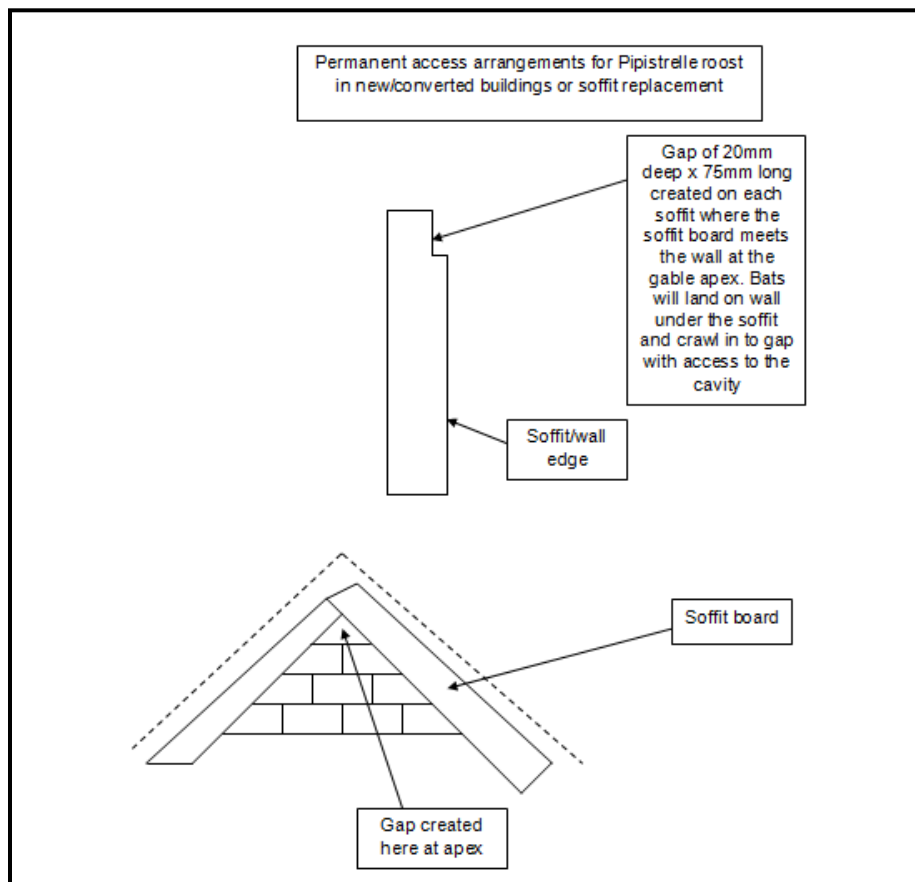
New Roost Creation: Roost provision will be incorporated within the east and west gable elevations of the newly constructed properties (see below); the roost provision will be in the form of an integrated brick bat box and soffit access (see below). The roost opportunities will replicate the crevice situations that are utilised by Pipistrelle bats and crevice dwelling bat species more generally. The roosts will be permanent for bats and cannot be used for any other purpose; management requirements at the roost are considered to be absent. Lighting will not be directed at or close to the roost area, nor will it affect contiguous foraging places or flight lines (commuting).



Locations of integrated bat box & soffit access within new proposed development



The integrated bat box can be installed to a gable elevation, it is a large, solid construction of insulating concrete with an internal roost space, which can be incorporated into the fabric of a building as it is built or renovated. A variety of facings can be fitted to suit any existing brick, and it is suitable for crevice dwelling species. The box is made to match the existing brickwork of the building



Soffit board access

Appendix II: *Inspection & Assessment in Relation to Bats & Breeding Birds including Dusk Survey Results, The Tyrer Partnership, 2017.*

Appendix III: *Updated Dusk Survey Results*, Tyrer Ecological Consultants Ltd, 2019.