
Land off New Brighton Road, New Brighton, Flintshire

Protected Species Survey Report (Bats)

Compiled by Ecology Services Ltd.

on behalf of

Stewart Milne Home North West England Ltd.

April 2019



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1.0 Introduction

- 1.1 Ecology Services Limited was commissioned by Stewart Milne Home North West England in June 2018, to carry out a Preliminary Roost Assessment (PRA) of trees on approximately 3.4ha of land off New Brighton Road, New Brighton, Flintshire, CH7 6RB, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference; (NGR) 325190, 365560. The location and boundary of the site are shown on Drawing 1.
- 1.2 The aim of the preliminary roost assessment was to:
- Undertake a visual inspection of the site to establish baseline conditions;
 - Complete an assessment to ascertain if potential or evidence of use existed for bat species;
 - Determine if there are requirements for further and/or more detailed surveys.
- 1.3 Subsequent to the findings of the Preliminary Roost Assessment, further Potential Roost Feature (PRF) inspection surveys were undertaken, the results of which are provided within this report.
- 1.4 The aim of the PRF inspection survey was to:
- Undertake a further visual inspection of noted trees with the aid of a tree climber to
 - access the PRF previously identified;
 - Complete an assessment to ascertain if evidence of use existed for bat species or if bats were present;
 - Determine if the level PRF can be reclassified and if there are requirements for further surveys and/or mitigation.
- 1.5 Following the preliminary roost assessment and the PRF inspection survey further surveys were recommended in the form of activity emergence/ re-entry surveys to enable robust data to be collected and allow for the presence/likely absence of roosting bats to be determined.
- 1.6 The site is proposed for residential development with associated infrastructure and landscaping. See Drawing 2 Proposed Planning Layout (Rev K).
- 1.7 As part of the Local Authority's environmental policies, surveys are required to be undertaken on schemes which may have the potential to affect protected species, i.e. bats.

2.0 Statutory and Planning Context

Bats and their Requirements

- 2.1 All British bats and their roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2017.
- 2.2 In brief, this legislation makes it is an offence to: -
- Deliberately capture, injure or kill any wild animal;
 - Deliberately disturb wild animals;
 - Damage or destroy a breeding site or resting place of such an animal.
- 2.3 Disturbance is defined as that which is likely:
1. to impair their ability –
 - to survive, to breed or reproduce, or to rear or nurture their young, or

- in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
2. to affect significantly the local distribution or abundance of the species to which they belong.
- 2.4 Where bats are affected by development then a licence to derogate from the Conservation of Habitats and Species Regulations 2017 would be required. European Protected Species (EPS) licence applications are processed and issued by Natural Resources Wales and can only be applied for, once planning permission is granted, if planning permission is required.
- 2.5 Natural Resources Wales (NRW) has the powers to grant an EPS licence for the following purposes;
- Regulation 55(2)(e) - preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment; or
 - Regulation 55(2)(f) - preventing the spread of disease; or
 - Regulation 55(2)(g) - preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries.
- 2.6 In addition, NRW can only issue a licence if it is satisfied that the activity meets one of the above purposes and is also satisfied of the following;
- Regulation 55(9)(a) - that there is no satisfactory alternative; and
 - Regulation 55(9)(b) - that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favorable conservation status in their natural range.
- 2.7 When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a Local Authority is a 'competent authority' within the meaning of regulation 7 of the Conservation of Habitats & Species Regulations 2017. The Local Authority must therefore exercise their functions under the provisions made within the 2017 Regulations and planning decisions should only be made when European Protected Species and their habitats are fully taken into account.
- 2.8 The Environment (Wales) Act 2016, sets out the requirement for the 'sustainable management of natural resources' together with new ways of working to achieve this. Part 1 of the Environment Act sets out Wales' approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.
- Section 6 – Biodiversity and resilience of ecosystems duty
- 2.9 Section 6 under Part 1 of the Environment (Wales) Act 2016 introduced an enhanced biodiversity and resilience of ecosystems duty (the S6 duty) for public authorities in the exercise of functions in relation to Wales. The S6 duty requires that public authorities must seek to maintain and enhance biodiversity so far as consistent with the proper exercise of their functions and in so doing promote the resilience of ecosystems.
- Section 7 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity
- 2.10 This section replaces the duty in Section 42 of the Natural Environment and Rural Communities (NERC) Act 2006. The Welsh Ministers will publish, review and revise lists of living organisms and types of habitat in Wales, which they consider are of key significance to sustain and improve biodiversity in relation to Wales.

- 2.11 The Welsh Ministers must also take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps. Part 1 of the Act, including Sections 6 and 7, came in to force on May 21, 2016.
- 2.12 Planning Policy Wales (PPW) Edition 10 (December 2018) sets out the land use planning policies of the Welsh Government and is supplemented by a number of Technical Advice Notes (TANs) which combined sets out the national planning policy for Wales. In particular, TAN 5: Nature Conservation and Planning (2009) details how the land use planning systems should contribute to protecting and enhancing biodiversity and geological conservation. All local planning authorities have a statutory duty to make arrangements to secure continuous improvement in the exercise of their functions and should aim to enhance the sustainable quality of life and environment for local citizens and communities.
- 2.13 Development plan strategies, policies and development proposals must consider the need to: support the conservation of biodiversity, in particular the conservation of wildlife and habitats; ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats; safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them; and secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.
- 2.14 Flintshire Local Development Plan for Biodiversity and Nature Conservation (Topic Paper No 1) notes that biodiversity conservation and enhancement is an essential contributor to sustainability. One of the key objectives is therefore to conserve and enhance species and their habitats that are of international, national and local importance and which may be threatened by new development.
- 2.15 A bat roost may be defined in several ways:
- a) Day roost
 - b) Night roost
 - c) Feeding roost
 - d) Transitional/occasional roost
 - e) Maternity roost
 - f) Mating roost
 - g) Hibernation roost
 - h) Satellite roost
 - i) Swarming site
 - j) Mating site
- 2.16 Roost selection is often closely correlated, to suitable foraging habitat within a reasonable commuting distance from the roost. Different sites are used throughout their active season which is dependent upon insect densities and abundance. Climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

3.0 Methodology

Ecological Data Search

- 3.1 An ecological data and historic records search was undertaken, up to 1km from the site, by contacting the following sources; listed in Table 1.

Table 1: Ecological Data Search Results and Record Centres Consulted

Source of information	Information supplied
COFNOD - North Wales Environmental Information Service	To identify locally protected sites or species of interest within 1km of the site.

Preliminary Roost Assessment Survey Methodology

Trees

3.2 The optimum time to investigate trees for bat roosting potential is from November to April, when trees are not in leaf and potential roosting features such as crevices can be more easily seen. Evidence of a bat roost is best determined when bats are active although preliminary roost assessments may be conducted outside of this period and can often provide conclusive results.

Tree Roost Criteria

3.3 The preliminary roost assessment for trees follows the below system which is based upon the Bat Conservation Trust 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (2016), see Appendix 1.

3.4 The PRA survey included a ground level inspection of trees within and on the boundaries of the site for any signs of roosting bats and presence of potential roosting features. Signs surveyed for included droppings, dead bats, feeding remains (beetle, moth and butterfly remains), urine staining and grease marks around crevices, and any noises such as scratching and audible bat calls. An Explorer Premium 8803AL (9mm) endoscope was used to check features accessible from ground level. A Clulite Long Ranger LED Pistol Light (1200 lumens) and close focusing binoculars were used to check any features of interest not accessible. High resolution photographs and videos were taken for later review.

3.5 During the survey the surrounding area was assessed in relation to suitable habitat that may be of value to bats.

Potential Roost Feature (PRF) Inspection Survey Methodology

3.6 Following the initial preliminary roost assessment, a number of trees were noted as having potential to support roosting bats. Trees assessed as having moderate or higher potential to support roosting bats (Trees 1, 4, 5, 6, 7, and 9) during the PRA survey were subject to further more detailed potential roost feature (PRF) inspections. Tree assessed as having low potential for roosting bats during the PRA which were deemed suitable for climbed inspections (Trees 3 and 8) were also subject to inspection. Trees 2 and 10 were assessed as having low potential but were unable to be subject to climbed inspections. Fully trained Arborists climbed the trees noted with bat roosting potential to search for bats and/or evidence of bat activity such as droppings, feeding remains (beetle, moth and butterfly remains), urine staining and grease marks around potential. A Clulite Long Ranger LED Pistol Light (1200 lumens), ladders, safety harnesses and tree climbing ropes and an Explorer Premium 8803AL (9mm) endoscope which is able to record images were used to further assess potential features.

Activity Survey Methodology

3.7 The Bat Surveys for Professional Ecologists: Good Practice Guidelines produced by the Bat Conservation Trust (2016), recommends timings and a minimum number of survey visits for presence/likely absence surveys to give confidence in a negative result for structures (and trees although unlikely to give confidence in a negative result). These are determined by the

- level of potential assigned to each individual building or structure. See Appendix 2 for the full table.
- 3.8 For trees with **high (moderate to high)** roost potential; three separate activity survey visits are required to determine the presence or absence of bats. One dusk emergence and one separate dawn re-entry survey will be required with the third survey comprising of either a dusk emergence or a dawn re-entry survey. Surveys should be undertaken between May to September, with at least two surveys to be undertaken between May and August. Surveys should be spaced at least two weeks apart, preferably more.
- 3.9 For trees with **moderate (low to moderate)** roost potential; two separate activity survey visits are required to determine the presence or absence of bats. One dusk emergence and one separate dawn re-entry survey will be required. Surveys should be undertaken between May to September, with at least one survey to be undertaken between May and August. Surveys should be spaced at least two weeks apart, preferably more.
- 3.10 For trees with **low** roost potential; no further activity surveys are required. Precautionary measures may be appropriate during felling or pruning activities.
- 3.11 Therefore, trees found to support features of moderate or high suitability for roosting bats following the PRA and climbed PRF inspection surveys and where presence/ likely absence of bats could not be determined from the inspections alone, were subject to further activity emergence/ re-entry surveys. Surveyors were positioned alongside the trees to observe identified potential roosting features for any emerging or entering bats. Surveyors noted any visual observations of bat activity and were aided by the use of the following equipment; a Batbox Duet, a heterodyne and frequency division bat detector, used in conjunction with AnaBat SD1/2 or Anabat Express detectors, which were set to record so that data could be analysed if required.
- 3.12 In accordance with best practice guidelines, up to three activity surveys were undertaken at an optimal time of year and included visits towards the end of the active breeding season of bats. Dates and times of the surveys are provided in Table 3.
- Back-tracking Survey Methodology**
- 3.13 During bat habitat surveys, conducted by Ecology Services in 2018 (see separate Bat Transect and Automated Survey Report), the central treeline was identified as a likely commuting route for common pipistrelle bats. A back-tracking survey was therefore carried out to determine if the locations of nearby roosts could be identified.
- 3.14 The back-tracking survey involved a surveyor making visual observations of bats commuting towards the roosts at sunrise. An attempt is then made to track the observed bats back to their roost location(s). Back-tracking surveys at dawn start two hours before sunrise and end when bats cease to be active or when the source roost has been found. At this site a surveyor was positioned along the central treeline within the site around 2 hours before sunrise. Bats were observed travelling along the treeline and the surveyor moved in the same direction as the bats towards roost locations. The nearer to sunrise a bat is recorded, the closer it is assumed that the bat is to its roost site, and therefore the locations of roosts can be determined.
- 3.15 All surveys were conducted following “The Bat Workers Manual “(JNCC 2004), “The Bat Mitigation Guidelines” (EN 2004) and the Bat Conservation Trust ‘Bat Surveys for Professional Ecologists: Good Practice Guidelines’ (2016) recommendations.

Personnel

- 3.16 All daytime survey works were undertaken by experienced Consultant Ecologist Mr. A. Leishman, who holds a Bat Class 2 Licence (Registration number 2017-29436-CLS-CLS) and is named as an accredited agent under Natural Resources Wales licence no. 79728:OTH:CSAB:2018.
- 3.17 The PRF inspection survey was undertaken by fully qualified Arborists Mr. N. Murray and Mr M. Alsop, under the supervision of Experienced Consultant Ecologist Mr A. Leishman.
- 3.18 The activity emergence/ re-entry surveys were conducted by experienced Consultant Ecologists Mr C. Smith, Mr B. Meadows, Mr C. Piner and Mr J. Perkins, who have regularly been involved with activity surveys.
- 3.19 The activity back-tracking survey was conducted by Consultant Ecologist Mr C. Smith, who is experienced in undertaking bat activity emergence/ re-entry and bat habitat transect surveys.

Timing

- 3.20 The ground-level PRA inspection was conducted on 17th July 2018 when the trees were inspected for potential places that may be of value to bats and if evidence of use was present. The PRA was conducted in July, which is at a time when bats are fully active and maternity colonies are in occupation. Females will have given birth and young will be present within the roost. Evidence of bat occupation is likely to be detected, should they be present at the site.
- 3.21 The PRF inspection survey was conducted on the 17th August 2018 when trees were climbed and their features examined further to see if their potential could be re-classified. The PRF inspection survey was conducted in August, which is at a time when bats are fully active, towards the end of the maternity season. Maternity colonies will be dispersing or have already dispersed as their focus turns to the mating season and the beginning of building up fat reserves. Evidence of bat occupation is likely to be detected, should they be present at the site.
- 3.22 The activity emergence/ re-entry surveys were undertaken between the 18th August and 12th September 2018, which included visits to each surveyed tree during the peak activity season of bats and when maternity colonies are in occupation. The activity back-tracking survey was conducted on 18th August 2018.

Constraints

- 3.23 There are no known constraints that would have adversely affected the inspections or activity surveys completed at the site.

4.0 Survey Results

Desktop Study

UK Species of Principal Importance

- 4.1 Section 7 of The Environment (Wales) Act 2016 lists several bat species of Principal Importance for the purpose of maintaining and enhancing biodiversity in relation to Wales, as follows:
- Barbastelle (*Barbastella barbastellus*)
 - Bechstein's (*Myotis bechsteinii*)
 - Noctule (*Nyctalus noctula*)
 - Common pipistrelle (*Pipistrellus pipistrellus*)

- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Brown long-eared (*Plecotus auritus*)
- Greater horseshoe (*Rhinolophus ferrumequinum*)
- Lesser horseshoe (*Rhinolophus hipposideros*)

National Status

- 4.2 There are 18 species of bat that are native to the United Kingdom. 12 of which are known to breed in Wales. Little is known about the status of most species although the available evidence suggests a general decline in populations nationally (Harris, S. et al. 1995). The commonest species of bats are the pipistrelle family (*Pipistrellus* sp), although these are also estimated to have declined in numbers by 70% between 1978 and 1993.

Local Status

- 4.3 The vice-county of Clwyd includes the counties of Conwy, Denbighshire, Flintshire and Wrexham. It is a region that supports varied habitats and geology and provides an ideal environment to support sizeable and diverse bat populations. The area is considered to be a strong hold for the nationally scarce lesser horseshoe bat.

Data Search Results

- 4.4 The data search identified 10 records of bats within 1km of the site including records of common pipistrelle (*Pipistrellus pipistrellus*) and unspecified bat species. The closest record is of common pipistrelle pertaining to the site itself, which dates from 1987. No further details were provided for this record. Two other records provided pertain to the village of New Brighton located approximately 50m and 250m east of the site and relate to common pipistrelle and unknown bat species respectively. The majority of other records pertain to Sychdyn between 700m and 1km north of the site and to Mynydd Isa around 1km south of the site.
- 4.5 The data search also identified records of an additional four species within 2km of the site; Daubenton's (*Myotis daubentonii*), noctule (*Nyctalus noctula*), soprano pipistrelle (*Pipistrellus pygmaeus*) and lesser horseshoe (*Rhinolophus hipposideros*), as well as undetermined pipistrelle and myotis species bats.

Preliminary Roost Assessment Results

- 4.6 The site is located in a rural area on the northern outskirts of the village of New Brighton in Flintshire, North Wales. In general terms, the site comprises a grassland field bordered by hedgerows with occasional mature trees, and a historic defunct hedgerow/ treeline with mature trees and scattered shrubs running north-south through the central western area of the site. In the east of the field is a damp area of grassland supporting abundant rushes and along the westernmost site boundary is a dry ditch which is expected to be dry for the majority of the year.
- 4.7 Land surrounding the site includes residential development to the south-west, south and south-east, forming the small village of New Brighton. Bordering to the north-east is New Brighton Road with a small number of detached residential properties located along it with land beyond comprising a mosaic of agricultural grassland, hedgerows, scattered trees and small areas of woodland. A large lake surrounded by a belt of woodland lies approximately 70m north of the site. Areas to the north-west of the site and the wider area surrounding New Brighton are dominated by agricultural grassland with hedgerows, treelines and occasional scattered trees and small blocks of woodland.

- 4.8 Overall, habitats within the site and its surrounds are considered to be of moderate value for bat species. Where suitable habitat is present in close proximity to buildings then there is an increased use of the buildings for roost sites given the presence of suitable foraging habitat.
- 4.9 A description of the trees can be found in the Table 2 below and overleaf. Results from the PRF inspection survey are also included within this table.

Table 2: Description of trees

Tree 1
Description:
Mature pedunculate oak (<i>Quercus robur</i>) tree around 15m tall located in the south-western corner of the site along the boundary abutting the A5119.
Roost potential signs:
A cavity on a decaying limb at approximately 4m overhanging the verge of the A5119 was considered likely to provide roosting potential for bats. The tree was assessed to hold moderate suitability for roosting bats following the PRA.
PRF inspection survey results
The tree was climbed and fully checked for features providing suitable roosting habitat for bats. Possible features identified during the PRA on a decaying limb were found to not recede into the tree. No other features suitable for roosting bats were identified. The tree was reassessed as having negligible potential for roosting bats.
Tree 2
Description:
Mature pedunculate oak tree around 15m tall located on the south-western boundary of the site adjacent to Argoed Road, north of Tree 1.
Roost potential signs:
Tree appears generally to be in good condition with no obvious features suitable for roosting bats. However, the tree has a cover of dense mature ivy which may provide suitable roosting features or could be concealing roost features within the tree. The tree is considered to hold low potential for roosting bats.
PRF inspection survey results
N/A. Tree was assessed as having low potential for roosting bats during the PRA and is considered unsuitable for a climbing inspection.
Tree 3
Description:
Mature pedunculate oak tree around 15m tall located on the south-western boundary of the site adjacent to Argoed Road.
Roost potential signs:
Tree appears generally to be in good condition. There is a limb split with possible cavity at around 9m on the north-western side of the tree which is considered likely to have limited potential to support bats. The tree also supports a cover of dense mature ivy which may provide suitable roosting habitat for roosting bats or could be concealing other roosting features within the tree. The tree was considered to hold low potential for roosting bats following the PRA.
PRF inspection survey results
The tree was climbed and checked for any further potential roosting features. The potential cavity identified during the PRA on the split limb was checked and was considered to have low potential for bats. No other features were found. The tree remains as having low potential for roosting bats.

Tree 4
Description:
Mature pedunculate oak tree around 18m tall located close to the south-western site boundary along the central defunct treeline within the site.
Roost potential signs:
The tree appears to be in good condition with no suitable roosting features identified within it. There is however a bird box located on the southern side of the stem which could provide good opportunities for roosting bats. The tree was considered to hold moderate potential for roosting bats following the PRA.
PRF inspection survey results
The tree was climbed and the bird box was checked for signs of roosting bats. No other features suitable for roosting bats were found and no evidence of roosting bats was recorded. The tree was reassessed as having low potential for roosting bats.
Tree 5
Description:
Mature pedunculate oak tree around 15m tall located along the central defunct treeline within the site.
Roost potential signs:
The tree has a small amount of deadwood in the canopy with decaying limbs providing potential roosting features including a small number of splits and a cavity along an old wound. Cavities were seen in association with these features but most are considered likely to have limited potential to support roosting bats and are unlikely to support large bat roosts. The tree was considered to hold moderate potential for roosting bats following the PRA.
PRF inspection survey results
The tree was climbed and fully checked for features providing suitable roosting habitat for bats. A number of cavities within the limbs of the tree were checked and were found to be shallow and offer only limited shelter, and were considered to have low potential for roosting bats. A southward protruding limb was found to have a long cavity accessible from the top which was not recorded during the ground level inspection. No evidence of bats was recorded but there were multiple access points up the limb and the cavity could not be exhaustively searched. The tree remained as having moderate potential for roosting bats following the PRF inspection and was therefore subject to activity surveys.
Tree 6
Description:
Twin-stemmed mature common ash (<i>Fraxinus excelsior</i>) tree around 12m tall located along the central defunct treeline within the site.
Roost potential signs:
The tree is heavily decayed with both stems being hollow and one having a missing top. Both stems have multiple woodpecker holes, branch tears and other cavities resulting from disease or past damage. The tree was considered to hold high potential for roosting bats following the PRA.
PRF inspection survey results
The tree was climbed and fully checked for features providing suitable roosting habitat for bats. The majority of cavities identified during the PRA were inspected and a number of features were considered to have good potential to support roosting bats, however no evidence of roosting bats was recorded. One features visible from the ground; a branch stub cavity on the eastern stem, could not be accessed due to health and safety constraints. Due to the presence of high-quality features for bats and a feature that could not be accessed, the tree remained as having high potential for roosting bats following the PRF inspection and was therefore subject to activity surveys.

Tree 7
Description:
Twin-stemmed mature sycamore (<i>Acer pseudoplatanus</i>) tree around 14m tall located along the central defunct treeline within the site.
Roost potential signs:
The southern stem is hollow near the base with openings to the cavity at old decaying limb stubs. The cavity is large and quite exposed but could be used by individual/ low numbers of bats on a transitional basis. The cavity was subject to an inspection using a torch and endoscope and no evidence of bats was found. The tree was considered to hold moderate potential for roosting bats following the PRA.
PRF inspection survey results
The tree was checked again by endoscope and no evidence of roosting bats was found within the cavities. The cavity is low down and a number of invertebrates were using it and therefore it is considered unlikely that bats use the cavity as a roost. The tree was reassessed as having low potential to support roosting bats.
Tree 8
Description:
Mature pedunculate oak tree around 15m tall located along the central defunct treeline within the site.
Roost potential signs:
The tree has a small number of dying limbs and epicormic growth surrounding areas of past damage. Three limb splits were identified along with other areas of past damage within areas of dense foliage which could provide features suitable for use by roosting bats. The dense foliage could conceal suitable features but may also reduce the potential of any features present by hindering access to bats. The tree was considered to hold low potential for roosting bats following the PRA.
PRF inspection survey results
The tree was climbed and fully checked for features providing suitable roosting habitat for bats. Possible features identified during the PRA including possible cavities at limb splits were found to provide insufficient shelter for roosting bats. No other features suitable for roosting bats were identified. The tree was reassessed as having negligible potential for roosting bats.
Tree 9
Description:
Mature common ash tree around 18m tall located along the central defunct treeline within the site.
Roost potential signs:
The tree generally appears to be in good health however there is a little decay evident in the crown including small dying limbs and areas of uneven bark possibly caused by canker rot. Up to three areas of canker rot could provide good features for roosting bats below the bark which are located between 8-10m on the stem and limbs on the south-eastern aspect of the tree. Other areas of damage including a limb tear are considered unlikely to provide other features suitable for roosting. The tree was considered to hold moderate potential for roosting bats following the PRA.
PRF inspection survey results
The tree was climbed and fully checked for features providing suitable roosting habitat for bats. Possible features identified during the PRA including possible canker rot cavities were found to provide insufficient shelter for roosting bats as they did not recede far enough into the tree. No other features suitable for roosting bats were identified. The tree was reassessed as having negligible potential for roosting bats.

Tree 10
Description:
Mature common alder (<i>Alnus glutinosa</i>) tree around 15m tall located at the northern end of the south-western boundary of the site adjacent to Argoed Road.
Roost potential signs:
Tree appears generally to be in good condition with no obvious features suitable for roosting bats. However, the tree has a cover of dense mature Ivy which may provide suitable roosting features or could be concealing roost features within the tree. The tree is considered to hold low potential for roosting bats.
PRF inspection survey results
N/A. Tree was assessed as having low potential for roosting bats during the PRA and is considered unsuitable for climbing.

- 4.10 Following the PRA survey and results of the climbed PRF inspection survey, Tree 5 was assessed as holding **moderate** potential to support roosting bats and Tree 6 was assessed as holding **high** potential to support roosting bats. Trees 5 and 6 were subject to further bat activity surveys following best practice guidelines, the results of which are presented within the following section.
- 4.11 Tree 2, 3, 4, 7 and 10 were assessed as having low potential for roosting bats. In view of the findings of the PRF inspections, Trees 1, 8 and 9 were reassessed as having negligible potential for roosting bats. All other trees within the site were assessed as having negligible potential to support roosting bats during the PRA survey.
- 4.12 All other trees situated on the boundaries of the site were assessed as having negligible potential to support roosting bats. No buildings are located within or adjacent to the site.

Activity Survey Results

- 4.13 An overview of the dates, times and results of the activity emergence/ re-entry surveys of trees at the site are provided below.

Table 3: Overview of Activity Surveys

Survey Type & Date	Start & End times	Structure reference / Location	Equipment used	Weather Conditions
Dawn 18.08.18	Start time: 03:58 End time: 06:13 Sunrise time: 05:58	Tree 6 and backtracking	Bat box duet used in conjunction with AnaBat SD1/2 detectors	Start Temp: 16.0°C Sunrise Temp: 16.0°C Finish Temp: 15.8°C Wind: Gentle breeze (BS-3*) Cloud Cover: 100% Precipitation: Dry
Dawn 06.09.18	Start time: 04:30 End time: 06:45 Sunrise time: 06:30	Tree 5 & Tree 6	Bat box duet used in conjunction with AnaBat SD1/2 detectors	Start Temp: 13.1°C Sunrise Temp: 10.6°C Finish Temp: 12.2°C Wind: Light breeze (BS-1*) Cloud Cover: 50% Precipitation: Dry

Survey Type & Date	Start & End times	Structure reference / Location	Equipment used	Weather Conditions
Dusk 12.09.18	Start time: 19:06 End time: 21:06 Sunset time: 19:36	Tree 5 & Tree 6	Bat box duet used in conjunction with AnaBat SD1/2 detectors	Start Temp: 15.1°C Sunset Temp: 12.9°C Finish Temp: 9.8°C Wind: Calm (BS-0*) Cloud Cover: 0% Precipitation: Dry

*Beaufort Scale – BS

Tree 5

Activity Survey No.1

- 4.14 The first activity survey was undertaken by one surveyor on the 6th September 2018. No bats were recorded emerging from or entering the tree by the surveyor.
- 4.15 Commuting, foraging, and feeding activity was recorded in the area, mainly to the north-east of Tree 5. Bat species identified included common pipistrelle and soprano pipistrelle.

Activity Survey No.2

- 4.16 The second activity survey was undertaken by one surveyor on the 12th September 2018. No bats were recorded emerging from or entering the tree by the surveyor.
- 4.17 Commuting and foraging activity was recorded at tree canopy level, within the field and in the surrounding open area. Bat species identified included common pipistrelle and soprano pipistrelle.

Tree 6

Activity Survey No.1

- 4.18 The first activity survey was undertaken by one surveyor on the 18th of August 2018. No bats were recorded emerging from or entering the tree by the surveyor.
- 4.19 Commuting and foraging activity was recorded in the area around Tree 6, mainly to the east of Tree 6. Bat species identified included common pipistrelle and soprano pipistrelle

Activity Survey No.2

- 4.20 The second activity survey was undertaken by one surveyor on the 6th of September 2018. No bats were recorded emerging from or entering the tree by the surveyor.
- 4.21 Foraging activity was recorded in the area around Tree 6. Bat species identified included common pipistrelle and soprano pipistrelle.

Activity Survey No.3

- 4.22 The third activity survey was undertaken by one surveyor on the 12th September 2018. No bats were recorded emerging from or entering the tree by the surveyor.
- 4.23 Commuting, foraging, and feeding activity was recorded in the area around Tree 6. Moderate levels of feeding activity were observed along the tree line to the east of Tree 6. Bat species identified included common pipistrelle and soprano pipistrelle.

Activity Back-tracking Survey Results

- 4.24 The activity back-tracking survey was conducted before dawn on 18th August 2018. No obvious bat roosts or particularly heavily used commuting routes were identified during the survey within or adjacent to the site. The survey recorded occasional passes and periods of foraging activity along the treeline in the centre of the site and along Argoed View to the south-west of the site. The majority of activity related to common pipistrelle bats with possible small number of brown long-eared and *Myotis* sp. bats.

5.0 Conclusion

- 5.1 The preliminary roost assessment (PRA) identified ten trees within the site as having potential to support roosting bats, including one tree (Tree 6) assessed as having high potential, five trees (Trees 1, 4, 5, 7 and 9) assessed as having moderate potential, and four trees (Trees 2, 3, 8 and 10) assessed as having low potential.
- 5.2 Following the climbed PRF inspection survey, Trees 3, 4 and 7 were downgraded to **low** potential and Trees 1, 8 and 9 were reassessed as having **negligible** potential for roosting bats. No evidence of roosting bats was recorded during to the inspections of trees at the site.
- 5.3 Trees 5 and 6, which could not be exhaustively inspected during the PRA or PRF inspections, were subject to further bat activity surveys. No emerging and re-entering bats were recorded during the activity surveys and it is therefore considered unlikely that Trees 5 and 6 supported roosting bats at the time of the survey.
- 5.4 No obvious bat roosts or particularly heavily used commuting routes were identified during the activity back-tracking survey within or adjacent to the site.

6.0 Implications and Recommendations

- 6.1 The results of the surveys on land off New Brighton Road, New Brighton, Flintshire found the trees to contain varying levels of potential to support roosting bats.
- 6.2 Following both the PRA and PRF survey, one tree (Tree 6) has been assessed as having **high** potential, one tree (Tree 5) has been assessed as having **moderate** potential, and five trees (Trees 2, 3, 4, 7 and 10) have been assessed as having **low** potential for roosting bats. All remaining trees within and on the boundaries of the site were assessed as having **negligible** potential for roosting bats.
- 6.3 The Bat Surveys for Professional Ecologists: Good Practice Guidelines produced by the Bat Conservation Trust (2016), recommends timings and a minimum number of survey visits for presence/likely absence surveys to give confidence in a negative result for structures (and trees although unlikely to give confidence in a negative result). These are determined by the level of potential assigned to each feature. See Appendix 2 for the full table.
- 6.4 Trees 5 and 6, which were assessed as having moderate and high potential to support roosting bats respectively, were subject to the appropriate number of activity emergence/ re-entry surveys and no roosting bat activity associated with these trees was recorded during the surveys.
- 6.5 In view of the findings of the surveys, it is considered that bats are not presently roosting in the surveyed trees that have the potential to be affected by the proposals at the site and there

are no apparent implications with regards to roosting bats and the proposed works at this time.

- 6.6 The surveys undertaken at the site found no evidence of roosting bats but potential roosting features remain at the site. All of the trees with moderate and low bat roost potential will be retained, however Tree 6 (high roost potential) will be lost to the proposed development (see Appendix 2 Proposed Planning Layout (Rev H)). Tree 9 (negligible bat roost potential) will also be lost.
- 6.7 In line with best practice it is recommended that any trees that contain potential roosting features shall be subject to precautionary measures and soft felled. Trees that continue to retain **moderate** and/or **high** bat roosting potential should be subject to pre-development aerial inspections and/or an activity emergence/ re-entry survey immediately prior to felling to ensure that no roosting bats are present prior to disturbance or removal. Furthermore, all contractors shall be made aware of the potential presence of bats and the appropriate precautionary measures during felling or pruning activities.
- 6.8 Trees with **low** potential do not require further activity surveys in support of a planning application, but precautionary measures should be adopted during felling or pruning works. This should take the form of either a pre-development aerial inspection or felling of potential roosting features using soft-felling section techniques under the supervision of a suitably qualified ecologist.
- Back-tracking survey*
- 6.9 The back-tracking survey identified the treeline to the central area of the site and along Argoed View to be used by occasional bat passes and periods of foraging activity. No heavily used commuting routes were identified at the time of the survey.
- 6.10 Increased use of the treeline was identified during one of the bat habitat surveys undertaken at the site. The northern section of this tree line will be lost to the proposed development which is likely to have implications for bat species. Furthermore, as bats have been regularly observed commuting and foraging within and around the site, a sensitive lighting scheme should be adopted as part of the proposals. Implications and recommendations with regards to potential commuting routes and lighting schemes are considered in more detail within the Bat transect and Automated Survey Report (January 2019) produced by Ecology Services Ltd.
- 6.11 If at any time a bat or evidence of bats is found or suspected, all works must cease immediately and advice should be sought from either Natural Resources Wales or the acting Consultant. If a bat roost is found then the works would be delayed until such a time adequate survey data is obtained that is sufficient to support a Natural Resources Wales licence that will derogate from legal protection afforded to roosting bats.
- 6.12 As bats are mobile creatures and can form new roosts at any time if works are not started within one year of this report then it may be necessary to repeat certain surveys.
- 6.13 In line with the Planning Policy Wales and Local Development Plans, developments should safeguard protected and priority species and existing biodiversity assets from impacts which directly affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them; and secure enhancement of and improvements to ecosystem resilience by improving diversity, condition, extent and connectivity of ecological networks.

7.0 References

Clwyd Bat Group. Online - <http://www.clwydbatgroup.com/bats-in-clwyd.html> [Accessed November 2018]

Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines*, 3rd edition, The Bat Conservation Trust, London.

Ecology Services Ltd (2019) *Bat transect and Automated Survey Report*

Harris, S. et al. (1995) *A review of British mammals: population estimates and conservation status of British Mammals other than cetaceans*. JNCC, Peterborough.

Individual Species Reports – 3rd UK Habitats Directive Reporting 2013, JNCC. Online – available from - <http://jncc.defra.gov.uk/page-6391> [Accessed October 2018].

Local Development Plan – Flintshire. Online - <https://www.flintshire.gov.uk/en/Resident/Planning/Flintshire-Local-Development-Plan.aspx> [Accessed November 2018]

Marnell, F. & Presetnik, P. (2010) *Protection of over ground roosts for bats (particularly roosts in buildings of cultural heritage importance)*. EUROBATs Publication Series No. 4 (English Version). UNEP/EUROBATs secretariat, Bonn, Germany.

Mitchell-Jones, A.J. (2004). *The Bat Workers Manual (3rd Edition)* JNCC. *The Bat Mitigation Guidelines* (English Nature 2004).

Species Population Trends, Bat Conservation Trust, online – available from - http://www.bats.org.uk/pages/species_population_trends.html [Accessed October 2018].

The Conservation of Habitats and Species Regulations 2017.

The EEC Directive 1992 (European Legislation).

The Environment (Wales) Act 2016

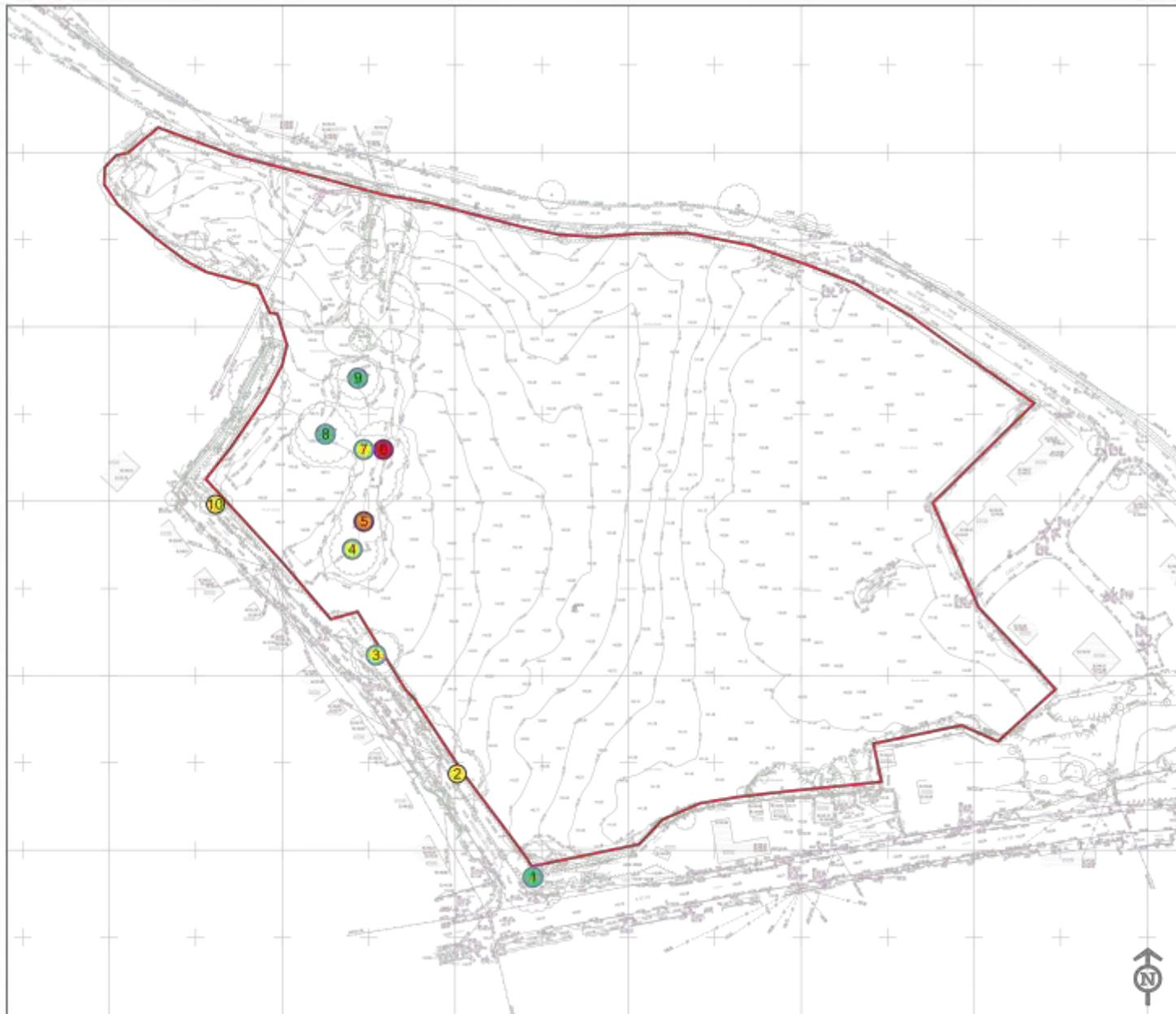
The Environmental Damage Regulations 2009.

The Wildlife & Countryside Act 1981 (as amended).

UK Biodiversity Steering Group (1995) *Biodiversity – the UK Steering Group Report*. Volume 2: Action Plans. P89 SAP for Pipistrelle. London, HMSO.

Welsh Government (2018) *Planning Policy Wales (Edition 10)*

Drawing 1:
Bat Roost Survey Summary Plan



Land off New Brighton Road, New Brighton, Flintshire

Drawing 1: Bat Roost Survey Summary Plan

Map ref. (NGR): 325180, 365560
Map scale: 1:1000 @ A3

Key

 Site boundary

PRA/ PRF Tree Survey Findings*

 'High' bat roost suitability

 'Moderate' bat roost suitability

 'Low' bat roost suitability

 'Negligible' bat roost suitability

Further Surveys Undertaken

 Trees subject to climbing inspections

 Tree subject to climbing inspection and activity emergence/ re-entry surveys

*All other trees within and bordering the site were assessed as having negligible suitability for roosting bats.

Drawing 2:
Proposed Planning Layout (Rev K)

Argoed View, Nr Mold

Proposed Sketch Layout - 1:500

Planning Layout Legend

- Proposed dwelling and Dwelling type.
- Proposed dwelling handing.
- Proposed detached garage.
- Access to dwellings.
- Plot numbers.
- 26 Affordable Dwellings.
- Proposed dual aspect units.
- Proposed SUDS pond.
- Proposed indicative tree position. (refer to landscaping layout for detail)
- Existing Category A trees to be retained. (refer to tree report for detail)
- Existing Category B trees to be retained. (refer to tree report for detail)
- Existing Category C trees to be retained. (refer to tree report for detail)
- Hard Landscaping Treatment A
Alternative surface material other than tarmac
- Hard Landscaping Treatment B
Block Paving
Non-slip concrete paved surfaces, foot paths and private driveways
Grass Paved
- Soft Landscaping
Soft landscaping with landscaping plan to include and detail
- Boundary Treatment A
Yellow high beam boundary fence
- Boundary Treatment B
Yellow high beam boundary fence
- Application Site boundary.
- Existing Easement.

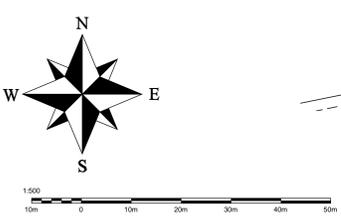


STEWART Milne HOMES						
Schedule of Accommodation						
Mews Dwelling Types AFFORDABLE						
	SQFT	No	Total Sqft			
ES	10%	653	10	6530	30%	
TD	19%	799	18	14382		
RVD	1%	Rydal	1	630		
Total dwellings and sqft			29	21,542		
Mews Dwelling Types						
	SQFT	No	Total Sqft			
AT	3%	Aston	750	2	1500	60%
AR	24%	Argyll	891	16	14256	
CW	13%	Castwellan	1026	9	9234	
CP	21%	Caplewood	955	14	13370	
3 Bed Detached Dwellings			SQFT	No	Total Sqft	
CV	6%	Castvale	950	4	3800	6%
4 Bed Detached Dwellings						
	SQFT	No	Total Sqft			
CA	3%	Carlton	1079	2	2158	25%
WES	4%	Westwood	1145	3	3435	
PW	3%	Parlwood	1190	2	2380	
DU	4%	Dukeswood	1260	3	3780	
GL	3%	Glenmore	1358	2	2716	
HA	7%	Hampfield	1286	5	6430	
5 Bed Detached Dwellings			SQFT	No	Total Sqft	
HE		Heddon	1504	1	1504	9%
LA		Laurieston	1598	2	3196	
KI		Kingsmoor	1607	3	4821	
Total dwellings and sqft - CMS			68	64,563		
Total dwellings and sqft - Including Affordable			97	94,122		
Gross Site Area in Acres				8.80		
Undevelopable area in acres				1.96		
POD				0.54		
SUDS				0.72		
SSR				0.7		
Net Site Area in Acres				6.84		
Density (units per acre)				15		
Density (units per hectare)				38		
Nett Square foot / Acre				14,848		

- K re-design to entrance and SUDS pond following information received from engineers. W22 blocks referenced. 18.04.19 CMC
- J Schedule amended to reflect proposed development. -1 DE + 1 HA 08.03.19 CMC
- H Layout revised following comments from SCP 22.01.19 CMC
- G Vis Splays added 2.4x43. Pedestrian link to plots 1-5 20.12.18 CMC
- F Mix amended to suit layout. Plot positions amended 20.12.18 CMC
- E Mix amended following Layout Review 12.12.18 12.12.18 CMC
- D Schedule Amended. 07.12.18 CMC
- C Re-draw following pre-app meeting with LPA. Additional unit gained, mixed changed. 30.11.18 CMC
- B Verisus amends following land meeting 10.11.18. Including changes to affordable policy requirements 24.10.18 CMC
- A Site access amended to suit plans provided by SCP 12.09.18 CMC

DATE	07.2018	DRAWN	CMC
SCALE	1:500	CHK	DJM

Argoed View, Nr Mold		
Proposed Planning Layout		
Dwg No	SK296/NBM/PL03	Rev K



Appendix 1:

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 (Taken from the Bat Conservation Trust Bat Surveys for Professional Ecologists: Good Practice Guidelines, 2016).

Suitability	Description	
	Roosting habitats	Commuting & 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	<p>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 conditions¹ 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 hibernation²).</p> <p>A tree of sufficient size and age to contain PRF's but with none seen from the ground or features seen with only very limited roosting potential³.</p>	<p>Habitat that could be used by small numbers of commuting bats such as gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) of a patch of scrub.</p>
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 ¹ 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).	<p>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 to gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland and water.</p>
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 ¹ and surrounding habitat.	<p>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.</p> <p>High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broad-leaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>
<p>¹For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance. ²Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types un urban environments (Korsten <i>et al.</i>, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments. ³This system of categorisation aligns with BS8596:2015 Surveying for bats in trees and woodland (BSI, 2015).</p>		

Appendix 2:

Tables 7.1 & 7.3 Recommended timings and 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
<p>Structures: One survey visit. One dusk emergence or dawn re-entry survey¹. May to August.</p> <p>Trees: No further surveys required.</p>	<p>Structures and Trees: Two separate survey visits. One dusk emergence and a separate dawn re-entry survey². May to September³ with at least one of surveys between May and August²</p>	<p>Structures and Trees: Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either a dusk or dawn². May to September with at least two of surveys between May to August²</p>
<p>¹Structures 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. If there is a possibility that quiet calling, late-emerging species may be 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.</p> <p>²Multiple 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 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 the 31st 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. A dawn survey immediately after a dusk one is considered only one visit.</p> <p>³September surveys are both weather and location dependant. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.</p>		

Appendix 3:
Tree Photographs



Tree 1



Tree 2



Tree 3



Tree 4



Tree 5



Tree 6



Tree 7



Tree 8



Tree 9



Tree 10