Clitheroe Community Hospital, Chatburn Road, Clitheroe, BB7 1QJ

UPDATED DAYLIGHT LICENSED BAT SURVEY AND MITIGATION STRATEGY

June 2017

[ERAP (Consultant Ecologists) Ltd ref: 2017-150]

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Document Control

Survey Type:	**Surveyors[1]**	**Survey Date(s)**
Daylight bat survey	Brian Robinson B.Sc. (Hons) MCIEEM	2nd May 2017
Reporting	**Personnel**	**Date**
Author	Brian Robinson B.Sc. (Hons) MCIEEM Senior Ecologist	9th May 2017
Signature(s)		
Checked by	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM	18th May 2017
Revised and issued by	Brian Robinson B.Sc. (Hons) MCIEEM	15th June 2017
Report issued to	McDermott Developments Ltd & NHS Property Services	
Copy Number	1[2]	

[1] *Licence reference number*
Bats
- Brian Robinson Natural England Class Survey Licence (bats, Level 2) Registration Number 2015-13161-CLS-CLS

Dates of Previous and Relevant Surveys at the Site

Survey Type:	**Surveyors[1]**	**Survey Date(s)**
Daylight bat survey	Stan Irwin (2008 licence number not known).	9th July 2008
Nocturnal emergence surveys	Victoria Allen (now Burrows), licence number 20082199; Steve Parker, licence number 20080002; Fiona Parker licence number 20080015; and Brian Robinson, Sean Hough, Chris Swindells.	22nd July 2008 & 11th August 2008
Daylight bat survey	WYG personnel (unknown)	25th November 2015
Dawn re-entry survey	WYG personnel (unknown)	12th May 2016
Nocturnal emergence surveys	WYG personnel (unknown)	1st June 2016 & 15th June 2016

SUMMARY

i. This presents the results of the bat surveys conducted to date at Clitheroe Hospital, Chatburn Old Road, Clitheroe. The report was requested in connection with proposals to demolish the existing buildings and redevelop the site to housing.

ii. The appraisal presents the results of desktop studies, licensed daylight bat surveys conducted in 2008, 2015 and 2017 and bat activity surveys completed in 2008 and 2016. These surveys have been used to inform a Mitigation Strategy for the protection of bats and their roosts, and compensation for the loss of bat roosts associated with the proposed development at the site.

iii. The scope of survey undertaken is appropriate to identify potential ecological constraints, the remit of mitigation required and opportunities for roosting bats associated with the development proposals. A single updated dawn re-entry survey will be completed to inform the Natural England Licence European Protected Species Mitigation (EPSM) Licence Application, to be submitted following the receipt of planning permission in 2017.

iv. The site comprises a complex of seven disused former hospital buildings to the north-east of Clitheroe town centre.

v. Two day roosts of pipistrelle species were detected during the daylight inspection of 2008 (2008-A at Building 1 and 2008-B at Building 7), and a day roost of common pipistrelle was confirmed at the site during the dusk emergence survey of that year (2008-C at Building 3).

vi. Two day roosts of common pipistrelle were detected during the activity surveys conducted in 2016 (2016-B and 2016-C, both at Building 3) and one maternity roost of common pipistrelle was detected at Building 7 (Roost 2016-A).

vii. Two day roosts of pipistrelle species were detected at Building 1 during the daylight inspection conducted in 2017 (droppings were present at Roost 2008-A, and further droppings were detected at 2017-A).

viii. It is considered that, in combination, the site supports roosts of 'moderate' conservation significance, and impacts will be of a 'medium' scale of impact in accordance with Table 6.1 of the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004).

ix. Bats and their roosts are European Protected Species under *The Conservation of Habitats and Species Regulations 2010* (as amended) and bats are listed under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended). As such, the proposals require a suitable Mitigation Strategy demonstrating that bats will be protected during works, that suitable roosting provision for bats will be providing during and after works, and that the 'three tests' used by Natural England to assess European Protected Species Mitigation (EPSM) Licence applications can be met.

x. An assessment of the proposed development in accordance with the 'three tests' is presented at **Section 4.4**. A Mitigation Strategy for the Protection of Bats and their Roosts, following the pro-forma used by Natural England to assess EPSM Licence Applications is appended at **Section 9.0**.

xi. It is confirmed that the proposals meet the 'three tests', in that the site is no longer suitable for use as a hospital, and the proposals will create new housing within previously developed land at Clitheroe. The proposals will ensure suitable provision for bats will be provided both during and as a consequence of the development.

xii. Measures for the protection of bats during works, including timing measures to ensure works are conducted at the optimal time of year to minimise impacts (October to May inclusive) are also presented.

xiii. This ecological appraisal has demonstrated that a residential development at the site is feasible and acceptable in accordance with ecological considerations, wildlife legislation and the National Planning Policy Framework.

xiv. It is possible to implement reasonable actions for the protection and long-term conservation of the roosting bats associated with the site, and redevelopment at the site will provide an opportunity to secure suitable habitats for roosting bats and foraging at the site in the long term.

1.0 INTRODUCTION

1.1 Background and Rationale

1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by McDermott Developments Ltd and NHS Property Services to carry out an updated daylight bat survey at Clitheroe Community Hospital, off Chatburn Road, Clitheroe BB7 1QJ (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 75450 43015. A plan showing the site location is presented at **Figure 8.1**, and an aerial image of the site and its surroundings is presented at **Figure 8.2** (source image: Google Maps).

1.1.2 The updated daylight bat survey was requested in connection with a planning application to demolish the buildings on site and redevelop the site to residential dwellings. The survey has been used to inform a Mitigation Strategy for the protection of bats, which is appended to this Report at **Section 9.0**. The Mitigation Strategy has been presented in the format of the pro-forma used by Natural England to assess European Protected Species Mitigation (EPSM) Licence applications, with minor variations to prevent unnecessary repetition.

1.2 Scope of Works

1.2.1 The scope of works undertaken in May 2017 comprised:

a. A desktop study and review of data gathered by the previous ecological studies conducted at the site;

b. A licensed daylight bat survey of the buildings[1];

c. The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and

d. The identification of any further surveys or precautionary actions that may be required prior to the commencement of any development activities, or to inform a EPSM licence application.

2.0 METHOD OF SURVEY

2.1 Desktop Study

2.1.1 The following sources of information and ecological records were consulted:

a. MAgiC: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;

b. *2008-109 Clitheroe Hospital, Chatburn Road, Clitheroe: Ecological Survey and Assessment* (ERAP Ltd, 2008), hereafter the '2008 Report'[2]*;*

c. *Clitheroe Community Hospital: Extended Phase 1 Habitat Survey and Daytime Building Inspection* (WYG Environment Planning Transport Ltd, 2016)*,* hereafter the '2016 Daylight Report'; and

d. *Clitheroe Community Hospital: Protected Species Surveys* (WYG Environment Planning Transport Ltd, 2016)*,* hereafter the '2016 Protected Species Report'.

2.1.2 The building reference numbers presented in the 2016 Report are used within this report for ease of reference.

[1] As stated at paragraph 3 of the 2016 Daylight Report, '*All existing trees are scheduled for retention and therefore no further survey is recommended*'.

[2] Data searches were conducted with Lancashire Environment Record Network (LERN) in 2008 and 2016; the results of these data searches (where relevant to bats) are presented within this report.

Bat Species

Daylight Survey

Survey Personnel

2.1.3 The site was assessed for its suitability to support roosting bats by Brian Robinson. Brian holds a Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-13161-CLS-CLS.

2.1.4 The surveyor's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013).

2.1.5 The surveys were carried out in accordance with standard methodology including the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), the *Bat Workers' Manual 3rd Edition* (Mitchell-Jones & Mcleish, 2004) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016).

Buildings

2.1.6 An inspection of the external surfaces, walls and roofs of the buildings was carried out to find potential bat roosting habitat or accesses into internal areas where roosts may be present. Searches for evidence of bat presence in the form of droppings, urine stains, feeding signs, grease marks and other evidence were also carried out. The searches were assisted with the use of a powerful torch, binoculars and ladders.

2.1.7 The internal survey involved an examination of the accessible internal areas (including roof voids) to find roosting bats or evidence of past use of the buildings by bats such as droppings and prey remains.

2.1.8 A list of equipment used is detailed at **Table 2.1**, below:

Table 2.1: Survey Equipment used during Daylight Bat Survey

Ladders
LED Lenser P14 torch
LED Lenser H3.2 head torch
Panasonic DMC- FT1 digital camera
Ridgid Micro Inspection Camera Borescope CA-100

2.1.9 The suitability of each building has been assessed in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn),* (Collins, J. (ed), 2016), taking into account the presence of gaps suitable for access by bats, the presence of features suitable for use by roosting bats within the building (including crevice dwelling and species which can roost in the open in roof voids), and the suitability of the surrounding habitats for use by foraging and commuting bats.

Habitat Assessment for Commuting / Foraging Bats

2.1.10 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn),* (Collins, J. (ed), 2016). Reference has been made using the following categories and descriptions / examples, presented at **Table 2.2**, below.

Table 2.2: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.	
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

2.2 Survey Limitations

2.2.1 No internal access was possible to Buildings 4, 5, 6 or 7 due to their boarded up condition, and / or the known presence of asbestos with the buildings.

2.2.2 It is considered that the comprehensive surveys (including bat activity surveys) conducted by WYG in 2016 are sufficient that a reliable assessment of the presence or absence of roosting bats at each building is possible. Where roosts are present, the type of roost present, the species of roosting bat present, and the conservation significance of each known roost can be determined. As a consequence, a suitable methodology can be put in place to ensure the protection of bats during the demolition of the buildings, and that suitable measures for mitigation and compensation are possible.

2.2.3 The updated daylight survey has been undertaken at the beginning of the bat active season, when field signs of bats may not be present at the external elevations of the buildings. The updated survey has been able to confirm that conditions are, in respect of each building's suitability for use by roosting bats, as described in the 2008 and 2016 Reports.

2.2.4 One activity survey will be required in the bat maternity season to inform the EPSM licence application. Otherwise, no significant survey limitations were experienced.

2.3 Evaluation Methodology

2.3.1 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Great Britain Department for Communities and Local Government, 2012) and associated government circulars has been taken into consideration. Legislation relating to protected species listed under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species Regulations 2010* (as amended) is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.

3.0 SURVEY RESULTS

3.1 Desktop Study

Summary of Data from LERN

3.1.1 In 2008, LERN held five records for common pipistrelle (*Pipistrellus pipistrellus*) within the tetrad[3] SD7543, dated between 1986 and 1996.

3.1.2 The records provided by LERN in 2016 are summarised at Table 5 (page 21) of the 2016 Report, and are reproduced below for ease of reference.

Table 3.1: 2016 LERN Data Search Results

Scientific Name	Common Name	Distance (kilometres) & Direction from Site	Date
Myotis sp.	Unidentified *Myotis* species	0.99 km north-west	2010
Myotis daubentonii	Daubenton's bat	0.97 km north-west	2011
Nyctalus noctula	Noctule	1.01 km north-west	2010
Pipistrellus sp.	Pipistrelle species	1.76 km north	2012
Pipistrellus pipistrellus	Common pipistrelle	0.34 km north-west	2014
Pipistrellus pygmaeus	Soprano pipistrelle	1.01 km north-west	2011
Plecotus auritus	Brown long-eared bat	1.28 km south-west	1992
Chiroptera sp.	Unidentified bat	1.47 km north	2013
Chiroptera sp.	Unidentified bat	1.28 km south-west	2007

Summary of Data from Magic Map

3.1.3 Magic Map holds records for six EPSM licences relating to bats within five kilometres of the site, as summarised in **Table 3.2**, below.

Table 3.2: EPSM Licence Applications (Bats) Within Five Kilometres of the Site

EPSM Reference Number	Species	Licence start date	Does Licence Allow Destruction of a:			Distance from Site
			Breeding site	Resting place	Hiber-nation site	
EPSM2009-1429	Common pipistrelle, brown long-eared bat	21.10.2009	No	Yes	Unknown	3.3 km
EPSM2012-4959	Common pipistrelle, whiskered bat, Daubenton's bat	17.10.2012	Yes	Yes	Unknown	2.6 km
EPSM2013-6487	Common pipistrelle, soprano pipistrelle, brown long-eared bat, whiskered bat, Brandt's bat, Alcathoe bat	22.10.2013	Yes	Yes	Unknown	3.3 km
2014-6395-EPS-MIT	Common pipistrelle	09.03.2015	No	Yes	Unknown	3.6 km
2015-8384-EPS-MIT	Alcathoe bat, Brandt's bat, brown long-eared bat, common pipistrelle, soprano pipistrelle, whiskered bat	10.03.2015	Yes	Yes	Unknown	3.3 km
2016-26538-EPS-BDX	Common pipistrelle, soprano pipistrelle	20.10.2016	Yes	Yes	Unknown	2.8 km

[3] i.e. The two kilometre square within which the site is located.

Summary of Data from 2008 Report

3.1.4 Two bat roosts were detected by the surveys which informed the 2008 Report. As stated at paragraph 3.3.10, page 14 of the 2008 Report:

'Evidence of the presence of a bat roost was located at two locations (annotated on Figure 2):

a. Main Building (A) = 20 – 30 old bat droppings indicative of Pipistrelle were noted at the west gable interior wall.

b. Boiler House (C) = 15 – 20 fresh bat droppings, which are indicative of Pipistrelle bats, present on the upper floor and walls beneath gap in ceiling below roof void.[4] (ERAP Ltd, 2008)

3.1.5 These roosts are hereafter referred to as Roosts 2008-A and 2008-B.

3.1.6 As stated at paragraph 3.3.11, also at page 14, a further roost (roost 2008-C) was detected during the first nocturnal emergence survey, conducted on 22nd July 2008:

'A single common pipistrelle emerged from beneath the ridge tile at the protruding gabled sections (second from the west) of Building B[5] at 21.30 BST, the bat flew towards Hedgerow 2 and left the site'

3.1.7 Photographs of the roosting locations are presented at **Photos 48** to **50**, **Section 8.1**, and the locations of the roosts are presented at **Figure 8.3**.

Summary of Data from 2016 Daylight Report

3.1.8 As detailed at page 30 of the 2016 Daylight Report:

'One building (Building 7) was re-confirmed to be a bat roost, two buildings (Buildings 1 and 3) were assessed as having 'High' potential to support roosting bats, three buildings (Buildings 4-6) were assessed as having 'Low-Moderate' potential to support roosting bats and one building (Building 2) was assessed as having 'Negligible' potential to support roosting bats.'

Summary of Data from 2016 Protected Species Report

3.1.9 At bullet point 3, paragraph 4.4, page 16 of the 2016 Protected Species Report, it is erroneously stated that *'A single common pipistrelle bat emerged from beneath a ridge tile on **Building 7** on 22nd July 2008 during emergence surveys.'*

3.1.10 As described above, the 2008 report refers to a common pipistrelle bat emerging from Building 3.

3.1.11 No further description of the evidence of roosting bats detected during the 2016 daylight inspection at Building 7 is provided.

3.1.12 No re-entry was detected during the dawn survey conducted on 12th May 2016.

3.1.13 The results of the dusk survey conducted on 1st June 2016 are as follows (as detailed at page 24 of the 2016 Protected Species Report):

'In total sixteen common pipistrelle were confirmed to emerge from the chimney tower of Building 7. In addition a suspected emergence of a brown long-eared bat from this building was also noted[6].'

[4] In this Report, the 'Main Building (A)' is referred to as 'Building 1', and the 'Boiler House (C)' is referred to as Building 7, in keeping with the 2016 Protected Species Report.

[5] Building 3 in this report.

[6] Suspected, as the emergence of the brown long-eared was not observed clearly, and it could not be ascertained which feature the bat emerged from.

3.1.14 The chimney tower is hereafter referred to at Roost 2016-A.

3.1.15 Two common pipistrelle were detected to emerge from two separate locations at the southern elevation of Building 3 during the dusk survey conducted on the 15th June 2016 (Roosts 2016-B and 2016-C). A brown long-eared bat was suspected to have also emerged at 2016-C, as a bat was observed which made no echolocation calls[7]. A single common pipistrelle was suspected to have emerged from Roost 2016-A.

3.1.16 Photographs of the roosting locations are presented at **Photos 51** to **53**, **Section 8.1**. and the locations of the roosts are presented at **Figure 8.3**.

3.2 Results of the 2017 Daylight Inspection

Description of Buildings

Building 1

3.2.1 Refer to **Photos 1** to **21**. Building 1 is a disused former community hospital, originally constructed between 1870 and 1873 as a workhouse and hospital, which has been unused for approximately five years. The building is constructed from mortared stone within stone quoins at each corner, and stone masonry at each window and door frame. The walls are rendered at the building's eastern elevations, and the building is linked to Buildings 2 and 3 by a single-storey flat-roofed timber covered walkway.

3.2.2 The building is two-storey at its front (north-western) elevation, with single-storey extensions to the rear. The building supports a complex pitched and hipped roof of slate with clay ridge tiles and lead flashing.

3.2.3 Gaps suitable for access by bats are present throughout, at lifted ridge tiles and roofing slates, behind timber soffits and barge boards, and under lifted lead flashing. The stonework appears to be well-sealed.

3.2.4 The building has several roof voids. The largest void is located over the two-storey section at the north-western end of the building; this void (1.a on **Figure 8.3**, refer to **Photos 15** and **16**) is approximately 1.5 metres tall, with a floor lined with fibreglass insulation. The roof is supported on traditional timber trusses, purlins and rafters. The roofing slates are largely unlined, with areas of degraded horse-hair parging present, and localised sections supporting bitumastic roofing felt.

3.2.5 Ten old bat droppings, indicative of pipistrelle species were detected at the same location as described for Roost 2008-A (i.e. the western gable (refer to **Photo 54** and **Figure 8.3**). A further 10 new (and 50+ old and very old) droppings were detected at a west facing gable at the void's southern-eastern end (refer to **Photo 55** and **Figure 8.3**). This second location is hereafter referred to as Roost 2017-A.

3.2.6 No further signs of roosting bats were detected in the other roof voids present at the building, all of which are located above the single-storey extensions at the building's south-eastern end, are approximately two metres tall, with the roofing slates largely unlined but with degraded horse-hair parging present, and are uninsulated, with the exception of the roof void at the north-eastern end of the building (1d), which has fibreglass insulation on the floor.

3.2.7 Building 1 was assessed to be of 'high' suitability for use by roosting bats by the 2016 Daylight Survey (Table 9, page 30), and the presence of roosting bats has been confirmed by the 2008 Report and the daylight survey conducted in 2017. This is considered further at **Section 4.0**, below.

Building 2

3.2.8 Refer to **Photos 24** to **26**. The modern extension (dating from the 1990's) is single-storey, and constructed from mortared stone which supports a hipped roof of slate.

[7] Brown long-eared bats are known to fly without echolocating, and have typically very quiet echolocation calls which may not be picked up on a bat detector. Other species, including pipistrelle species may also fly without echolocating, however, if conditions are sufficiently bright to allow this.

3.2.9 Gaps suitable for access by bats are present behind the timber soffits at each elevation, and at lifted ridge tiles.

3.2.10 Internally, no access to the void above the suspended ceiling was possible, however gaps in this suspended ceiling indicated that the roof is supported on modern, pre-fabricated trusses, the roofing slates are lined with bitumastic roofing felt and the floor supports fibreglass insulation.

3.2.11 No bats or signs of bats were detected at the external elevations of Building 2 or the accessible internal areas. No bats have been previously detected at the building during the daylight inspections or activity surveys conducted to date. The building was assessed to support 'negligible' suitability for use by roosting bats in the 2016 Daylight Report.

Building 3

3.2.12 Refer to **Photos 27** to **33**. Building 3 was constructed at the same time as Building 1 in a similar fashion, and is linked to Buildings 1 and 2 by the timber covered walkway. The two-storey building, constructed from mortared stone, supports a pitched roof of slate.

3.2.13 A single roof void is present, which is approximately 1.5 metres tall, and largely unlined with degraded horsehair parging present. The roof is supported on traditional timber purlins and rafters and the void is well lit throughout via regular glass skylights. The floor of the void is lined with fibreglass insulation.

3.2.14 No bats or signs of bats were detected at the internal areas or external elevations of the building in 2017, however individual bats have been observed emerging from three separate locations at the south-eastern elevation of the building, one in 2008 (Roost 2008-C, **Photo 50**) and two in 2016 (Roosts 2016-B and 2016-C (**Photos 52** and **53**). The building supports known bat roosts of common pipistrelle[8]; this is considered further at **Section 4.0**.

Building 4

3.2.15 Refer to **Photos 34** to **38**. Building 4 is a detached single storey outbuilding and former storeroom and outhouse. It is constructed from walls of mortared stone and brick which are rendered at its northern, western and eastern elevations. The building supports pitched roofs of slate with clay ridge tiles.

3.2.16 Gaps suitable for access by bats are present under lifted roofing slates, behind the timber barge boards, and at the louvred timber ventilation panel at the south-eastern elevation.

3.2.17 No bats or signs of bats were detected at the external elevations of the building, and no access was possible to the internal areas of the building. No roosting bats were detected by the 2008 or 2016 surveys. The building is described as being of 'low to moderate' suitability for use by roosting bats at Table 9, page 30 of the 2016 Daylight Report.

Buildings 5 and 6

3.2.18 Refer to **Photos 39** to **42**. Buildings 5 and 6 are detached outbuildings at the southern end of the site which have been timber boarded at their windows and doors. The buildings, which are constructed from mortared brick and/or stone and are rendered externally, support pitched roofs of slate.

3.2.19 Gaps suitable for access by bats are present under lifted roofing slates and behind the timber boarding at the windows and doors.

3.2.20 No internal access was possible to either building. No bats or signs of bats were detected at the external elevations of the buildings, and no roosting bats were detected at the buildings by the 2008 or 2016 surveys.

[8] A brown long-eared bat was only suspected at Roost 2016-C, and not confirmed; the presence of a brown long-eared bat was suspected due to the emerging bat not echolocating. It is however known that pipistrelle species will also fly without echolocating.

The buildings are described as being of 'low to moderate' suitability for use by roosting bats at Table 9, page 30 of the 2016 Daylight Report.

3.2.21 The building's suitability for use by roosting bats is considered further at **Section 4.0** below.

Building 7

3.2.22 Refer to **Photos 43** to **47**. Building 7 is a detached two-storey former boiler house with a single-storey extension at its rear (south-eastern) elevation, constructed from mortared stone with stone quoins and stone masonry at its windows and door frames. It supports two pitched roofs of slate and a single, square chimney of mortared brick, which is supported by eight metal bands.

3.2.23 Gaps suitable for access by bats are present throughout under lifted roofing slates, and roosting common pipistrelle bats have been detected at a gap at the roof verge of the south-western gable (Photo 49, Roost 2008-B), and emerging from beneath the metal bands at the chimney (**Photo 51**, Roost 2016-A).

3.2.24 The building supports known bat roosts of common pipistrelle[9]; this is considered further at **Section 4.0**.

Foraging and Commuting Bats

3.2.25 Refer to **Figure 8.2**. The buildings and hard standing within the site are of negligible suitability for use by foraging and commuting bats owing to the absence of vegetation and a source of invertebrate prey.

3.2.26 The mature tree lines and shrubs at the site boundaries are suitable for use by foraging and commuting bats, and provide links to the better quality habitats present in the wider area including the large settling pond present to the south-east of the site..

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

4.1.1 It is proposed to demolish the existing buildings, and re-develop the site to housing.

4.1.2 The presence of roosting bats at the site is considered at **Section 4.2**, and impacts of the proposals to the known roosts are considered at **Section 4.3**.

4.1.3 An assessment of the proposals under the 'three tests' used by Natural England to assess European Protected Species Mitigation (EPSM) licence applications is also presented at **Section 4.4**.

4.2 Roosting Bats

4.2.1 The presence of roosting bats and suitability of each building for roosting bats is summarised at **Table 4.1,** below.

[9] A brown long-eared bat was only suspected at Roost 2016-A, and not confirmed; again, the presence of a brown long-eared bat was suspected due to the emerging bat not echolocating. It is however known that pipistrelle species will also fly without echolocating.

Table 4.1: Summary of Bat Surveys Conducted to Date

Building Reference	Roosts Present (including type of roost present).	Suitability for Use by Roosting Bats
1	Two day roosts[1] of pipistrelle species (Roosts 2008-A and 2017-A). The species has been determined due to the type of droppings present (DNA surveys will be conducted to formally identify the species to inform a EPSM licence application). The type of roost has been determined via the number of droppings present at each location, and the absence of any bat emergence during the 2008 or 2016 surveys.	High. No signs of a roost of greater conservation significance (such as a maternity roost[2] or hibernation roost[3]) has been detected. It is considered the presence of a maternity roost is reasonably unlikely due to the absence of large numbers of droppings with the roof voids, and no sign of large numbers of bats emerging / re-entering the buildings during the 2016 surveys carried out in the maternity season. The buildings construction is not likely to provide a suitable hibernation site for bats, and the well-preserved stonework does not provide any features suitable for use by hibernating bats.
2	None	Negligible to low. No bats or signs of bats have been detected in 2008, 2016 or 2017.
3	Three day roosts of common pipistrelle (Roosts 2008-C, 2016-B and 2016-C). Roosts determined via individual bat re-entry / emergence. Brown long-eared bats have not been confirmed as present at Roost 2016-C.	High. No signs of a roost of greater conservation significance are present at the building. The rationale presented above for Building 1 is applicable for Building 3.
4	None	Low to moderate. No bats or signs of bats have been detected in 2008, 2016 or 2017.
5	None	Low to moderate. No bats or signs of bats have been detected in 2008, 2016 or 2017.
6	None	Low to moderate. No bats or signs of bats have been detected in 2008, 2016 or 2017.
7	One day roost of a pipistrelle species (Roost 2008-B) and one maternity roost of common pipistrelle (Roost 2016-A)	High. It is considered that the presence of a hibernation roost at the building is reasonably unlikely for the same reasons as presented for Buildings 1 and 3.

[1] Day roost: a roost where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer;
[2] Maternity roost: where female bats give birth and raise their young to independence.
[3] Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity.

4.2.2 In accordance with Figure 4 of the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), day roosts or individual bats of common species are of low conservation significance, and maternity sites of common species are of moderate conservation significance. The conservation significance of each roosting site will inform the mitigation and compensation requirement at the site, as well as inform the optimal timing for conducting works to the site, as described in the Mitigation Statement presented at **Section 9.0**, below.

4.3 Assessment of Impacts

4.3.1 In accordance with *Site Layout: Chatburn Road, Clitheroe* (McDermott Homes, 2017), hereafter the 'Site Layout Plan', all buildings within the site (including Buildings 1, 3 and 7) will be demolished and the site redeveloped to housing.

4.3.2 The demolition of Buildings 1 and 3 will destroy the pipistrelle day roosts 2008-A, 2008-C, and the common pipistrelle day roosts 2016-B and 2016-C. In accordance with Table 6.1 of the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), this will have a 'low' scale of impact.

4.3.3 The demolition of Building 7 will destroy the day roost of pipistrelle species detected in 2008 (2008-B), and the maternity roost of common pipistrelle detected in 2016 (Roost 2016-A). This, in accordance with Table 6.1 of the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), is a 'medium' scale of impact.

4.3.4 It is considered that, in combination, the proposals, which will destroy one maternity roost of common pipistrelle and five pipistrelle day roosts will have a 'medium' scale of impact overall.

4.3.5 This scale of impacts has been used to inform the mitigation and compensation proposed. In accordance with Figure 4 of the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), this will include:

'Timing constraints. More-or-less like-for-like replacement. Bats not to be left without a roost and must be given time to find the replacement. Monitoring for two years preferred.'

4.3.6 The mature trees at the north-western site boundary and trees and shrubs at the south—western site boundaries will be retained, and the existing links to the water body to the south-east of the site will be retained; the proposals will retain the features of greatest suitability for foraging and commuting bats associated with the site.

4.4 The 'Three Tests'

4.4.1 Bats and their roosts are protected under the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Species and Habitats Regulations 2010* (as amended), hereafter referred to as 'the Regulations'. As such, any development proposals which could impact upon bats and their roosts must only be conducted under a suitable European Protected Species Mitigation (EPSM) licence, granted by Natural England.

4.4.2 In determining whether or not to grant a licence Natural England must apply the requirements of Regulation 53 of the Regulations and, in particular, the three tests set out in sub-paragraphs (2)(e), (9)(a) and (9)(b):

(1) Regulation 53(2)(e) states: *a licence can be granted for the purposes of "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",* hereafter referred to as the 'Overriding Public Interest Test'*;*

(2) Regulation 53(9)(a) states: *the appropriate authority shall not grant a licence unless they are satisfied "that there is no satisfactory alternative",* hereafter referred to as the 'No Satisfactory Alternative Test'; and

(3) Regulation 53(9)(b) states: *the appropriate authority shall not grant a licence unless they are satisfied "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.",* hereafter referred to as the 'Favourable Conservation Status' test.

4.4.3 A detailed mitigation strategy showing how the three tests will be met is required as part of any planning application for the site. An initial examination of the proposals in relation to the three tests is presented below.

Overriding Public Interest Test and No Satisfactory Alternative Test

4.4.4 The proposals are a sustainable redevelopment of a previously developed site, thereby satisfying the need for housing within Clitheroe without requirement the development of a greenfield site.

4.4.5 Bats have been detected early in the design stage of the project, and measures to protect and compensate for the loss of roosting habitat have been incorporated into the design of the site at an early stage.

4.4.6 Doing nothing at the site will lead to the further deterioration of the buildings, potentially leading to health and safety concerns, and will not secure the long-term viability of the roosts.

4.4.7 Is considered that the proposals are of 'overriding public interest' as the need for use of a previously developed site to meet the housing need in Clitheroe has been identified in *Former Clitheroe Hospital Planning Statement December 2016* (WYG Planning, 2016), which states at paragraph 1.08, page 2:

'Developing the Clitheroe Hospital site for housing in the shorter term will make a positive contribution to the housing land supply, necessary to meet housing need. The site is available and deliverable, and meets the Government's overarching desire to deliver sustainable housing development and meet increasing housing needs.'

4.4.8 Further, there is no satisfactory alternative to demolition of the buildings to re-developing the site. The site is disused, and is not considered suitable for use as a modern community hospital; a new hospital has already been constructed and is in current use for this purpose. The site is not suitable for redevelopment to housing via retaining the existing buildings, as they are unsuitable for this purpose. No alternative design would equally secure in the long-term habitats at the site for use by roosting, foraging and commuting bats.

Favourable Conservation Status Test

4.4.9 The measures proposed for the protection of bats during development and the provision of suitable roosting habitat both during and as a consequence of the proposed development will be completed following the finalisation of the design of the site. In summary, the proposals will:

a. Aim to demolish Buildings 1, 3 and 7 at a favourable time of year (i.e. October to May inclusive), however it should be noted that works may be conducted at any time of year for day roosts of common species of bat, such as those present at Buildings 1 and 3;

b. Demolish Buildings 1, 3 and 7 under the supervision of a licensed bat worker and conduct works affecting the roosts at Buildings 1,3 and 7 carefully and by hand;

c. Maintain constant and permanent provision for roosting bats at the site via the installation of suitable bat boxes on mature trees within the site boundaries prior to the commencement of works and mounted bat houses at the south-eastern corner of the site, close to Roost 2016-A; and

d. Maintain suitable permanent roosting provisions at the site via installation of bat boxes / bat access panels at the new housing.

4.4.10 Points 'a' to 'd' above are presented in greater detail at **Section 9.0** and **Figure 8.4**.

5.0 RECOMMENDATIONS

5.1 At least one bat activity survey is required at the site to inform a Natural England EPSM Licence application, as described at **Table 5.1**, below. It is recommended that the bat activity survey comprises a dawn re-entry survey conducted in the maternity season.

5.2 It is recommended that if no re-entry to roosting locations 2008-A or 2017-A is detected, droppings from each roost should be sent for DNA analysis to confirm the bat species present.

Table 5.1: Further Surveys Required for Bats to Inform Natural England Licence Application

Survey type	Survey Timings and Frequency [1]
Dawn re-entry survey	The survey must be completed in the maternity season, i.e. June/July. Dawn re-entry surveys must commence between 1.5 and 2 hours before sunrise and last until at least 5 minutes after sunrise. If more than one survey is required, the surveys must be spaced at least two weeks apart.
DNA analysis of droppings	A sample of the droppings detected at Roosts 2008-A and 2017-A will be sent for DNA analysis if required.
[1] In accordance with Table 7.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016)	

5.3 Otherwise the recommendations presented in the 2016 Daylight Report and 2016 Protected Species Survey remain suitable for the site.

6.0 CONCLUSION

6.1 This ecological appraisal has demonstrated that a residential development at the site is feasible and acceptable in accordance with ecological considerations, wildlife legislation and the National Planning Policy Framework.

6.2 It is possible to implement reasonable actions for the protection and long-term conservation of the roosting bats associated with the site, and redevelopment at the site will provide an opportunity to secure suitable habitats for roosting bats at the site in the long term.

7.0 REFERENCES

Bat Conservation International, 2013. *Installing your Bat House – Wooden Post or Steel Pole Installation.* [Online] Available at: http://www.batcon.org/pdfs/bathouses/InstallingYourBatHouseWoodenPostSteel%20Pole.pdf [Accessed 11 May 2017].

Bat Conservation Trust, 2016. *The National Bat Monitoring Programme: Annual Report 2015.* [Online] Available at: http://www.bats.org.uk/pages/nbmp_annual_report.html [Accessed 10 05 2017].

CIEEM, 2013. *Technical Guidance Series Competencies for Species: Bats.* Winchester: Chartered Institute of Ecology and Environmental Managenent.

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

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

Cumbria Biological Data Network, 2010. *Bats: All Species, Version 2.1, Cumbria Biodiversity Evidence Base.* [Online] Available at: http://www.cbdc.org.uk/data/cbeb/species-statements [Accessed 24 October 2016].

ERAP Ltd, 2008. *2008-109 Clitheroe Hospital, Chatburn Road, Clitheroe: Ecological Survey and Assessment,* Preston: ERAP Ltd.

Great Britain Department for Communities and Local Government, 2012. *National Planning Policy Framework.* London: H.M.S.O.

Great Britain, 1981. *Wildlife and Countryside Act.* London: H.M.S.O.

Great Britain, 2006. *Natural Environment and Rural Communities Act.* London: H.M.S.O.

Great Britain, 2010. *The Conservation of Habitats and Species Regulations.* London: H.M.S.O.

McDermott Homes, 2017. *Site Layout: Chatburn Road, Clitheroe,* Altham: McDermott Homes.

Mitchell-Jones, A., 2004. *Bat Mitigation Guidelines.* Peterborough: English Nature.

Mitchell-Jones, A. J. & Mcleish, A. P., 2004. *Bat Workers' Manual, 3rd Edition.* Peterborough: Joint Nature Conservation Committee.

Natural England, 2015. *Bats: mitigation licence application form (A13b-1) for up to 3 species.* [Online] Available at: https://www.gov.uk/government/publications/bats-apply-for-a-mitigation-licence [Accessed 10 May 2017].

Natural England, 2016. *Protected species licences: when to include a reasoned statement with your application.* [Online]
Available at: https://www.gov.uk/government/publications/reasoned-statement-to-support-a-mitigation-licence-application/protected-species-licences-when-to-include-a-reasoned-statement-with-your-application
[Accessed 19 January 2016].

Tuttle, M. D., Kiser, M. & Kiser, S., 2013. *The Bat House Builder's Handbook.* 2nd ed. Texas: Bat Conservation International.

WYG Environment Planning Transport Ltd, 2016. *Clitheroe Community Hospital: Extended Phase 1 Habitat Survey and Daytime Building Inspection,* Manchester: WYG Environment Planning Transport Ltd.

WYG Environment Planning Transport Ltd, 2016. *Clitheroe Community Hospital: Protected Species Surveys,* Manchester: WYG Environment Planning Transport Ltd.

WYG Planning, 2016. *Former Clitheroe Hospital Planning Statement December 2016.* 1 ed. Manchester: WYG Planning.

8.0 APPENDIX 1: PHOTOGRAPHS AND FIGURES

8.1 Photographs

Photographs of Buildings 1 to 7

Photo 1: Building 1, northern elevation, eastern end

Photo 2: Building 1, northern elevation, western end

Photo 3: Building 1, western elevation, northern end

Photo 4: Building 1, western elevation, southern end

Photo 5: Building 1, southern elevation, western end

Photo 6: Building 1, southern elevation

Photo 7: Building 1, southern elevation (including section of covered walkway in the foreground)

Photo 8: Building 1, southern elevation

Photo 9: Building 1, southern elevation

Photo 10: Building 1, southern elevation

Photo 11: Building 1, southern elevation, pre-fabricated outbuilding

Photo 12: Building 1, southern elevation, eastern end

Photo 13: Building 1, eastern elevation, southern end

Photo 14: Building 1, eastern elevation, northern end

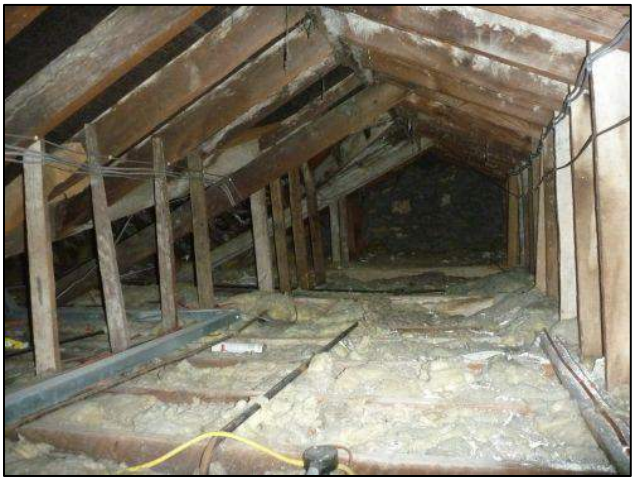

Photo 15: Building 1, northern section of roof void above two-storey section of building (1a)

Photo 16: Building 1, southern section of roof void above two-storey section of building (1a)

Photo 17: Building 1, roof void above single-storey section at south-western corner (1b)

Photo 18: Building 1, roof void above single storey section at south-western corner, shorter section of void (1b)

Photo 19: Building 1, roof void above kitchen area, at single storey section at the southern end of the building (1c)

Photo 20: Building 1, roof void above single-storey section of building at eastern end of the building (1d)

Photo 21: Building 1, roof void at northern end of the single-storey section of the building, at the building's eastern end (1d)

Photo 22: Western elevation of covered walkway which joins Buildings 1, 2 and 3

Photo 23: Eastern elevation of covered walkway which joins Buildings 1, 2 and 3

Photo 24: Building 2, northern elevation

Photo 25: Building 2, western elevation

Photo 26: Building 2, southern elevation

Photo 27: Building 3, northern and western elevations

Photo 28: Building 3, southern elevation, western end

Photo 29: Building 3, southern elevation, middle

Photo 30: Building 3, southern elevation, eastern end

Photo 31: Building 3, eastern elevation

Photo 32: Building 3, northern elevation, eastern end

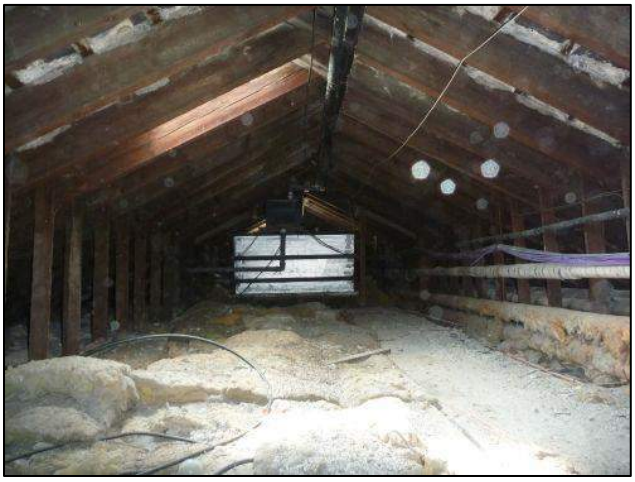

Photo 33: Building 3, roof void.

Photo 34: Building 4, southern elevation

Photo 35: Building 4, western and southern elevations

Photo 36: Building 4, western and northern elevation, western end

Photo 37: Building 4, northern and western elevations, eastern end

Photo 38: Building 4, northern and eastern elevations

Photo 39: Building 5, western and northern elevations

Photo 40: Building 5, southern and eastern elevations

Photo 41: Building 6, southern and western elevations

Photo 42: Building 6, northern and eastern elevations

Photo 43: Building 7, northern elevation

Photo 44: Building 7, eastern elevation

Photo 45: Building 7, tower

Photo 46: Building 7, southern elevation

Photo 47: Building 7, western elevation

Photographs of Bat Roosts Detected 2008 to May 2017

2008 Results

Photo 48: 20 to 30 droppings detected at western gable interior wall of Building 1 in 2008 (Roost 2008-A)

Photo 49: 15 to 20 bat droppings, indicative of pipistrelle bats, present on the upper floor and walls beneath gap in the ceiling below the roof void, at the western elevation of Building 7 (Roost 2008-B)

Photo 50: One common pipistrelle emerged from beneath ridge tile at 21:30 on 22nd July 2008 (Roost 2008-C)

2016 Results

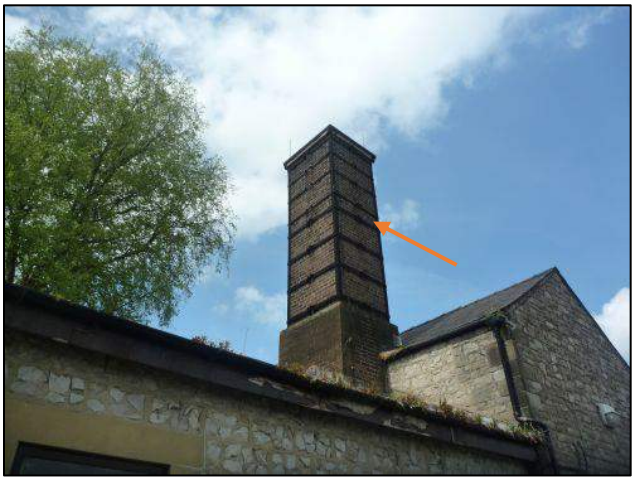

Photo 51: 16 common pipistrelle and one (suspected) brown long-eared bat were observed to have emerged from behind the metal bands of the chimney on 1st June 2016. One common pipistrelle emerged on 15th June 2016 (Roost 2016-A)

Photo 53: One common pipistrelle emerged from roof edge in the northern corner of the alcove at the southern elevation of Building 3 on 15th June 2016[11]. It is suspected that one brown long-eared bat was also detected emerging from this location (Roost 2016-C)

Photo 52: One common pipistrelle emergence from roof or upper floor level of southern elevation of Building 3 on 15th June 2016[10] (Roost 2016-B).

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[10] The arrow points to the approximate location indicated on Figure 3 of the 2016 WYG report.

[11] The arrow points to the approximate location indicated on Figure 3 of the 2016 WYG report.

2017 Results

Photo 54: 10 droppings detected (indicative of pipistrelle species) in May 2017 at same location as Roost 2008-A

Photo 55: 10 recent and 50+ old and very old droppings detected at west facing gable at southern end of two-storey section of Building 1, May 2017 (Roost 2017-A)

8.2 Figures

Figure 8.1: Location Map of the Site

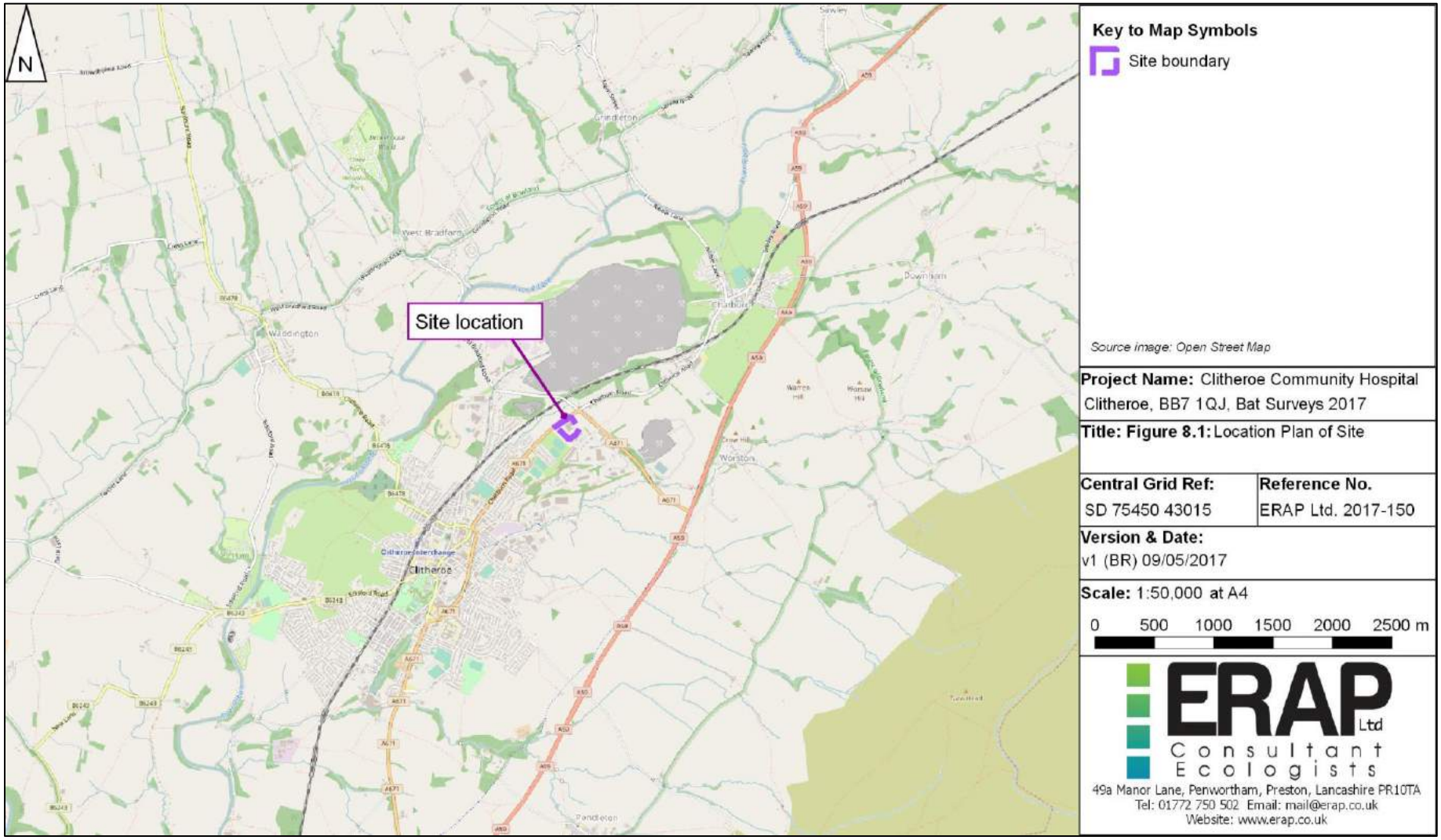


Figure 8.2: Aerial Image of the Site and its Surrounding Habitats

Figure 8.3: Plan to Show Building Locations and All Roosting Locations Identified 2008 to 2017

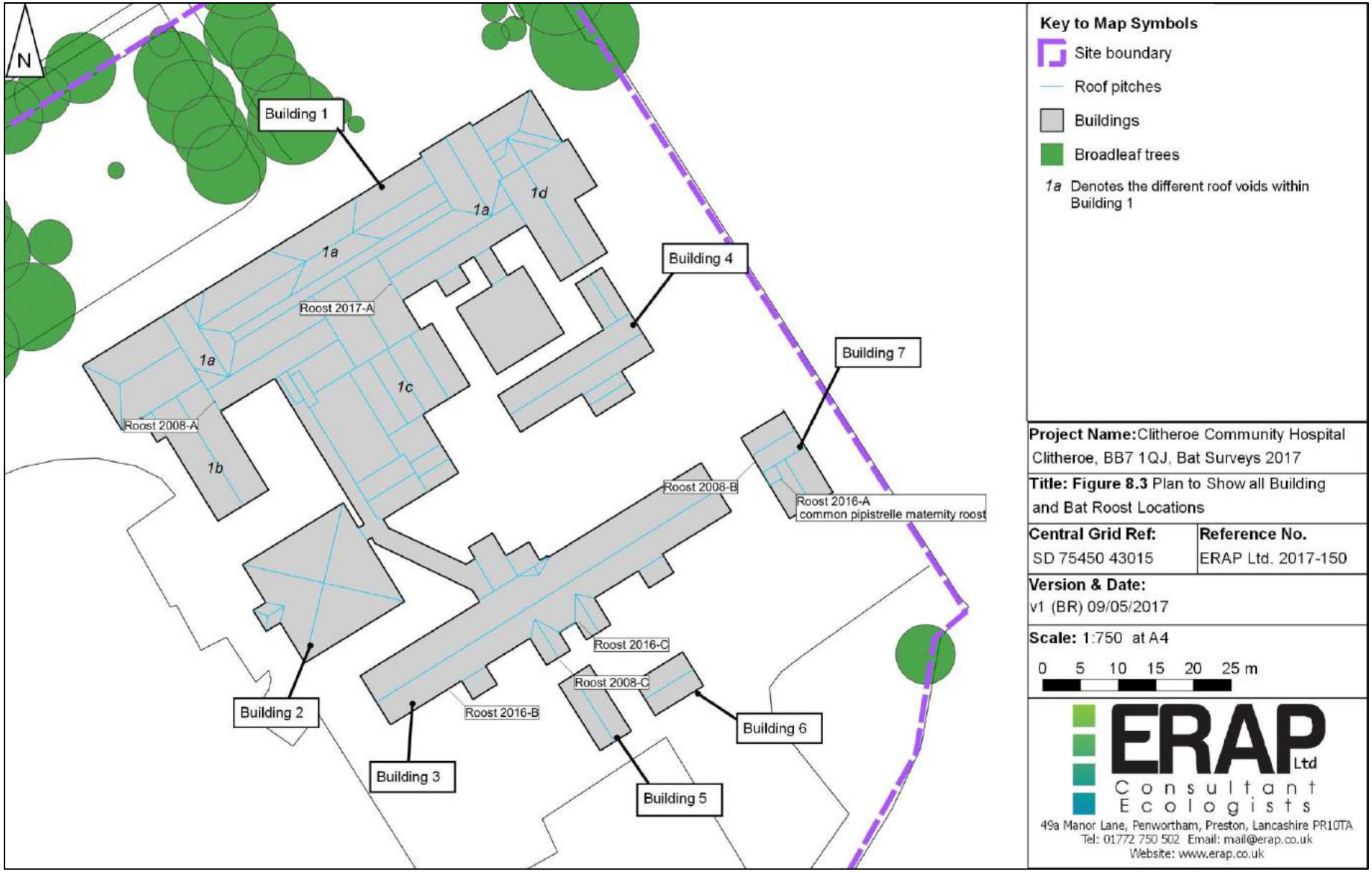


Figure 8.4: Plan to Show Measures to be Applied to Ensure the Protection of Roosting Bats During Demolition of Buildings 1, 3 and 7

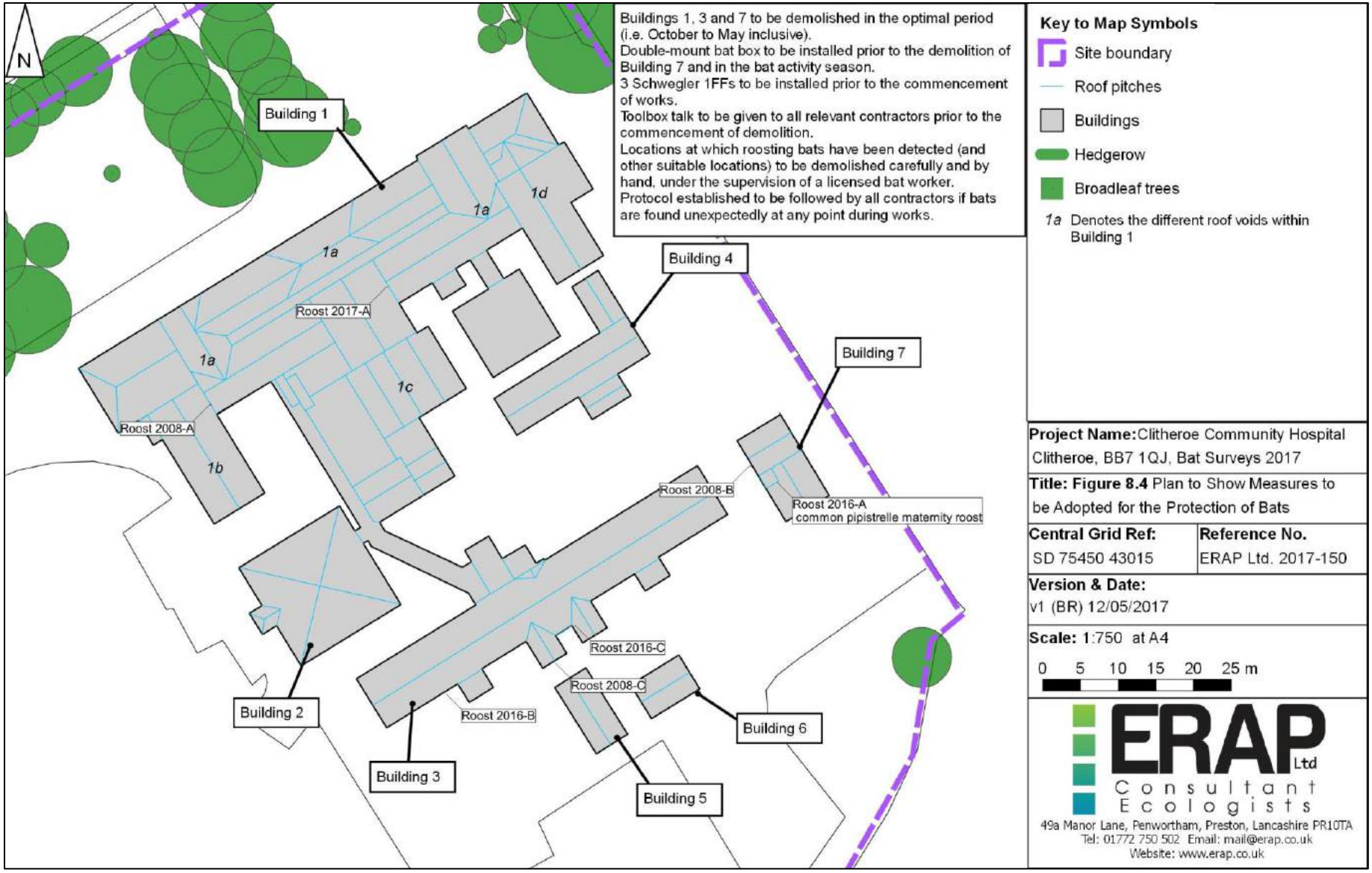
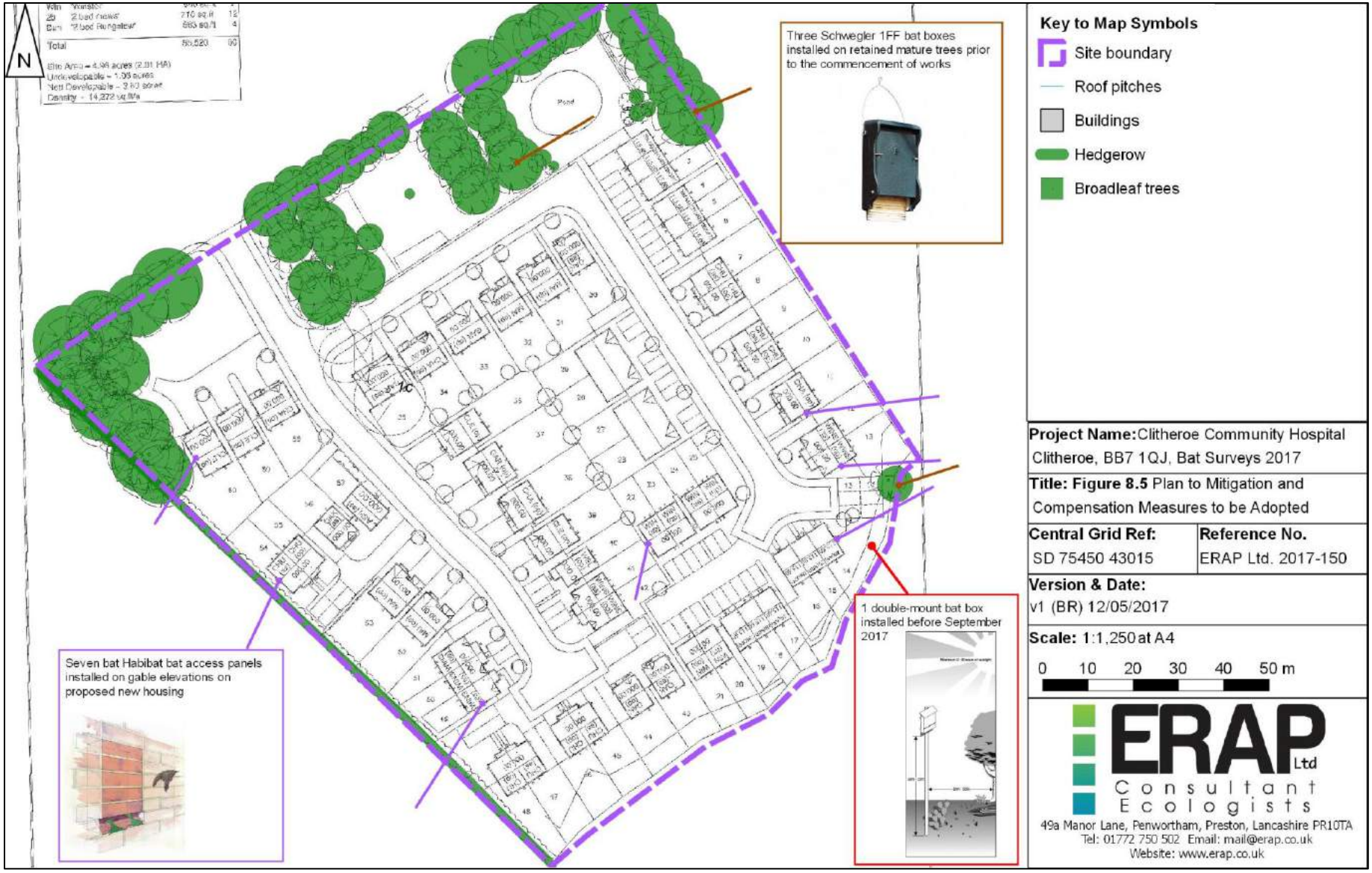


Figure 8.5: Plan to Show Mitigation and Compensation Measures



9.0 APPENDIX 2: DRAFT EPSM LICENCE MITIGATION STRATEGY FOR THE PROTECTION OF BATS AND THEIR ROOSTS

This Mitigation Strategy has been prepared following the pro-forma used by Natural England to determine licence applications, namely *Bats: mitigation licence application form (A13b-1) for up to 3 species* (Natural England, 2015). Minor modifications have been made in order to prevent unnecessary repetition within this Report.

This Mitigation Strategy will be used to determine the impact of the proposal on the favourable conservation status (FCS) of the species concerned (Regulation 53(9)(b)).

9.1 Executive Summary

Provide an overview of what works are proposed and how the impacts identified will be addressed in order to ensure no detriment to the maintenance of the population at a favourable conservation status

9.1.1 The bat surveys were carried out to a high standard and provide a comprehensive assessment and survey of the buildings. The survey effort applied is in accordance with standard guidance detailed in *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, (ed.), 2016).

9.1.2 Further activity surveys will be completed in 2017 to inform a European Protected Species Licence Application for Natural England.

9.1.3 The surveys conducted have detected the presence of three day roosts of pipistrelle species (Roosts 2008-A, 2008-B and 2017-A), three day roosts of common pipistrelle (*Pipistrellus pipistrellus*) (Roosts 2008-C, 2016-B and 2016-C) and one maternity roost of common pipistrelle (Roost 2016-A). The location of each roost is presented at **Figure 8.3**, above.

9.1.4 No further evidence roosting bats or roosts of any rare or locally distributed bat species have been recorded at the site. The buildings are unsuitable for use by hibernating bats.

9.1.5 In the absence of mitigation the demolition of Buildings 1, 3 and 7 will result in the permanent loss of all seven roosts detected at the site. The demolition of the buildings (if conducted unsympathetically) has the potential to injure or kill individual bats. In combination, this would be considered a 'medium' scale of impact in accordance with the guidance presented in *Bat Mitigation Guidelines* (Mitchell-Jones, 2004).

9.1.6 The proposed mitigation strategy comprises the following elements:

9.1.7 *Timing:* in accordance with Figure 4 of the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), there are no timing constraints on the roosts of small numbers of common species, such as the day roosts detected at Buildings 1 and 3. As best practice, however, it is recommended that any works impacting upon the day roosts 2008-A, 2008-B, 2008-C, 2016-B, 2016-C and 2017-A will be timed in order that it is completed in the optimum period for carrying out works, and in accordance with Table 8.1 of the *Bat Mitigation Guidelines*, i.e. the works will be conducted between October and May inclusive. It is mandatory that works to the maternity roost 2016-A at Building 7 are conducted within this optimum period.

9.1.8 *Precautionary approach to demolition:* precautionary measures are proposed in order that the presence of any bats within the building will be detected during the proposed demolition of the areas concerned, and a protocol should bats be found or suspected during works will be followed, to ensure the protection of any bats sheltering within the building.

9.1.9 *Provision of suitable roosting facilities prior to and during the demolition of the building:* One double mount bat house suitable for use by a maternity colony of common pipistrelle will be installed at the site in 2017, prior to the demolition of the buildings and within the bat active season. A further three bat boxes

(Schwegler 1FF), suitable for crevice dwelling bat species, will be installed on retained mature trees at the site boundaries.

9.1.10 *Provision of permanent compensatory roosting facilities:* Suitable long term roosting provision for roosting bats, namely seven bat access panels, will be installed at proposed new buildings, refer to **Figure 8.5**.

9.1.11 *Foraging Bats:* All existing mature trees at the frontage of the site will be retained; no adverse impacts on foraging or commuting bats as a consequence of the proposals will occur.

9.2 Introduction

Background to the Development

Include a brief summary of:

Why the activity and a licence are necessary (e.g. bridge structure repairs are required and will affect a known maternity roost of Daubenton's bats, which will be temporarily lost whilst works are being undertaken; renovation works to an office building will result in the permanent loss of three day roosts of Common Pipistrelle bats; Demolition of an existing hospital to be replaced with flats will result in the loss of a Brown Long-eared Bat maternity roost).

9.2.1 It is proposed to demolish the existing, disused buildings (including Buildings 1, 3 and 7) within the site and redevelop the site to residential housing.

Include the site/project name and provide an OS Grid Reference to 8 figures

9.2.2 Clitheroe Community Hospital, Chatburn Road, Clitheroe. SD 7545 4301.

Include current status of planning permission (if applicable) e.g. full planning permission with all relevant wildlife conditions discharged; permitted development; demolition with prior notification of demolition issues resolved. If the proposal is for demolition only of a structure supporting a bat roost/s, please confirm whether there are plans to develop the site in the future, and if so, when

9.2.3 This document has been produced to inform a planning application. The Natural England pro-forma for Licence Applications has been reproduced as an appendix to the Ecological Survey and Assessment of the site to demonstrate that all issues in relation to the protection and mitigation for roosting bats required by Natural England have been addressed by the Report.

Relationship with other nearby development and cumulative impacts

Is the current application part of a larger development project? For example, is it part of a phased or multi-plot housing development that will require more than one bat licence? Enter yes, no or N/A below. If yes, note a master plan document will be required.

9.2.4 No.

If the current development is part of a larger development project, summarise very briefly here how the current application relates to the larger project, and how the in-combination effects are considered and mitigation/compensation is sufficient

9.2.5 The current development is not part of a larger development project.

Apart from any mentioned above, please inform us of any past or future development or other projects (in the last 5 years or next 5 years) in the vicinity which may have significantly impacted or are likely to significantly impact on the same population of bats as the application (e.g. loss of a maternity or hibernation roosts). You must make reasonable efforts to establish this, including discussions with your client and the local planning authority, stating below what you undertook. A brief summary of the project/s should be provided including the site name and location, dates and if known the licence reference numbers(s).

9.2.6 No past or future developments (in the last or next five years) are known of.

9.3 Survey and Site Assessment

Pre-existing information on the bat species at the survey site

9.3.1 Refer to **Section 3.1** of the main Report. Bat surveys have been conducted at the site in 2008 and 2016; the data from these surveys are included as part of this assessment.

9.3.2 Data search information from LERN, collected in 2008 and 2016, has been included and is presented at Section 3.1 and Table 3.1 of the main Report. EPSM licences for bat roosts within five kilometres of the site as collected from the Magic Map website are presented at Table 3.2 of the main Report.

Status of the bat species

Detail conservation status at the local, county and regional levels in the table below, with justification to your assessment. If the status is unknown then please enter 'unknown'.

Table 9.1: Status of Bat Species

Species	Conservation Status Assessment		
	Local	County	Regional
Pipistrelle species	Common and widespread	Common and widespread	Common and widespread
Common pipistrelle	Common and widespread	Common and widespread	Common and widespread

9.3.3 In accordance with *The National Bat Monitoring Programme: Annual Report 2015* (Bat Conservation Trust, 2016).

Objectives of the survey to inform this proposal

Table 9.2: Survey objectives

Survey objectives	Yes/No/NA	Comments
Determine presence/absence of bats	Yes	Daylight inspections have been conducted in 2008, 2015 and 2017. Two nocturnal emergence surveys were conducted in 2008 (22nd July and 11th August) by ERAP Ltd. Two nocturnal emergence surveys were conducted in 2016 (1st June and 15th June) One dawn re-entry survey was conducted at the site on 12th May 2016. It is considered that the surveys completed are sufficient to determine the presence or absence of bats at the site, and to inform a planning application. In accordance with best practice, updated activity surveys will be completed in 2017 to inform the EPSM licence application for Natural England.
Determine bat usage of site (e.g. maternity, hibernation, night roosts in various structures (specify))	Yes	The comprehensive surveys, conducted over several years (and within the maternity season) are sufficient to determine the presence of both day roosts and a maternity roost of pipistrelle species. No features suitable for use by hibernating bats are present within the buildings.
Identify foraging, commuting or swarming sites	No	
Other (explain)	No	

Site/Habitat Description

Brief descriptions of the site, including total size of the development site (ha) and areas of the site with potential value to bats (ha).

9.3.4 Refer to **Section 3.2** of the Main Report.

9.3.5 The approximately 1.9 hectare site located to the north east of Clitheroe town centre. The buildings and hard standing within the site are of negligible suitability for use by foraging and commuting bats.. Buildings 1, 3, 7 support known roosts of bats. No bat roosts have been detected at Buildings 4, 5 and 6; these buildings are assessed to be of 'low to moderate' suitability for use by roosting bats. Building 2 is assessed to be of 'negligible to low' suitability for use by roosting bats.

9.3.6 The mature tree lines and shrubs at the site boundaries (comprising approximately 0.8 hectares) are of moderate suitability for use by foraging and commuting bats, and provide links to the better quality habitats present in the wider area including the large settling pond present to the south-east of the site .

9.3.7 It is proposed to retain and protect the tree lines at the northern site boundary and retain the hedgerow along the western site boundary as part of the development proposals.

Brief description of the structures within the site, differentiating between those surveyed and those not surveyed, with an explanation why.

9.3.8 A description of the buildings within the site is presented at **Section 3.2** of the Main Report.

Description of adjacent areas/offsite habitats, specifying any relevance to bats, including descriptions of habitat/s relevant to bat commuting/foraging behaviour

9.3.9 A description of the habitats in terms of their suitability for use by roosting bats is presented at **Section 3.2** of the Main Report.

Please also include annotated cross-referenced and dated photographs (showing both internal and external survey areas).

9.3.10 Refer to **Section 8.1**, above.

Field Surveys

9.3.11 The details of the field surveys conducted are presented at **Sections 3.1** and **3.2**.

Please explain any constraints on the surveys undertaken

9.3.12 During the 2017 daylight inspection no access could be gained to the internal areas of Buildings 4, 5, 6 or 7. Each building had been previously surveyed in 2008, 2015 and 2016, however, with a combination of daylight inspections and bat activity surveys.

Please confirm that a walkover survey/check has been carried out within 3 months prior *to the application submission to ensure that conditions have not changed since the most recent survey was undertaken. Provide details of any changes to conditions and habitats and/or structures on site since the survey was undertaken. If no walkover survey/check has been undertaken please explain why*

9.3.13 The most recent survey was undertaken on 2nd May 2017. Further checks will be within three months of the application submission, if required.

Survey Results

Summarise your findings below. Figures must include flight lines, access points, dimensions of existing roosts, locations of surveyors etc.).

9.3.14 Results of the 2008 and 2015 daylight surveys and bat activity surveys conducted in 2008 and 2016 are presented at **Section 3.1.** Results of the 2017 daylight inspection are presented at **Section 3.2**.

9.3.15 **Figure 8.3** shows the location of all known roosts.

9.3.16 A total of seven roosts have been detected at Buildings 1, 3 and 7, comprising two day roosts of pipistrelle species at Building 1, three day roosts of common pipistrelle (all at Building 3) and one day roost of a pipistrelle species and a maternity roost of common pipistrelle at Building 7.

9.3.17 Building 1 supports two day roosts of a pipistrelle species, detected via the daylight inspections conducted in 2008 and 2017. Both Roosts 2008-A and 2017-A comprise low numbers (i.e. around 10) recent droppings with older droppings present, and are located within the building's roof void and adjacent to south-western gable pitches. Both are indicative of day roosting pipistrelle species roosting at the wall-tops of the gable pitches.

9.3.18 Building 3 supports three day roosts of common pipistrelle, detected during the bat activity surveys conducted in 2008 and 2016. Each roost is at the south-eastern elevation roof verge, where individual common pipistrelle bats have been observed emerging or re-entering at the roof-line. Roosts 2008-C, 2016-B and 2016-C all comprise day roosts of common pipistrelle.

9.3.19 15 to 20 droppings, indicative of pipistrelle bats, were detected at the internal wall of the western gable elevation of Building 7 in 2008 (day roost 2008-B). 16 common pipistrelle bats were observed emerging from under the metal banding at the chimney of this building in 2017; this was assessed to be a maternity colony of common pipistrelle.

Interpretation/evaluation of survey results

Table 9.3: Interpretation of Results

Structure reference	Species	Count/estimate of individuals	Site Status Assessment (e.g. Hibernation, maternity, feeding roost, swarming site etc.	Conservation significance of roost	Use and importance of site throughout the year (e.g. used by different species at different times, hibernation potential etc)
Building 1	Pipistrelle species (most likely to be common pipistrelle)	2	2 day roosts (Roosts 2008-A and 2017-A)	Low	No hibernation importance. Used occasionally by individual/low numbers of bats throughout summer.
Building 3	Common pipistrelle	3	3 day roosts (Roosts 2008-C, 2016-B and 2016-C)	Low	No hibernation importance. Used occasionally by individual/low numbers of bats throughout summer.
Building 7	Pipistrelle species (most likely to be common pipistrelle) & common pipistrelle	16	1 day roost (2008-B and one maternity roost (2016-A)	Moderate	No hibernation importance. Day roost used occasionally by individual/low numbers of bats throughout summer. Maternity roost used by mother bats to give birth and care for their young June to August

9.3.20 Also refer to **Section 4.3** of the main Report. The day roosts are of 'low' conservation importance, however the maternity roost and the site as a whole is considered to be of 'moderate' conservation significance in accordance with *Bat Mitigation Guidelines* (Mitchell-Jones, 2004).

9.4 Impact assessment in absence of mitigation or compensation for each species/roost type

Where appropriate take into consideration cumulative impacts of your proposals on the bat species and populations identified in your survey in each section

Initial impacts

The impact/s of activities undertaken on site pre-development and during works must be considered and explained. Consider disturbance (such as human presence, noise, vibration, dust, lighting, access obstruction due to scaffolding and plastic sheeting etc), temporary damage and temporary loss of roosts and injuring/killing.

E.g. Unsupervised contractor removing roof tiles has the potential to crush 3 Common Pipistrelle bats using the roof tiles as day roosts. Major negative impact at a site level; demolition of an extension to a building will take place adjacent to a maternity roost of Common Pipistrelle bats situated under the soffit board of the retained building. Potential for significant disturbance if demolition works are undertaken during the maternity period through vibration, noise and dust. Medium negative impact on a local level

9.4.1 The proposed demolition of Buildings 1, 3 and 7 will destroy Roosts 2008-A, 2008-B, 2008-C, 2016-A, 2016-B, 2016-C and 2017-A.

9.4.2 Unsupervised contractor removal of the roofing, barge boards and soffits at Buildings 1 and 3 and the metal banding at the chimney at Building 7 has the potential to injure, kill or disturb up to 50 common pipistrelle bats.

9.4.3 High negative impact at the site level; moderate negative impact at local level, and moderate negative impact at the county and regional levels (in accordance with Table 6.1 of the *Bat Mitigation Guidelines* (Mitchell-Jones 2004)).

Long-term impacts

Consider and explain the impacts of the proposed works on the different species populations at a site, regional and national level.

Roost modification

E.g. Changes to roosts/access points, new entrances (including human access e.g. for servicing/maintenance etc.) change in size of roost space, changes in air flow, temperature and humidity, light etc. Please detail the access points into each roost and the type/s of roost which will be modified

9.4.4 N/A: no roost modification is proposed.

Roost loss

Loss or deterioration of roosting sites, access points, habitat, etc. must be considered. Please detail the access points into each roost and types of roost/s which will be lost.

E.g. Demolition of building reference X in June will lead to the loss of a night roost in the porch used by 1 Lesser Horseshoe bat and the loss of a maternity Brown Long-eared Bat roost in the loft space. This will lead to the death and/or injury of bats including dependant young and permanent destruction (loss) of both roosts. Moderate negative impact at a site level for Lesser Horseshoe bats and moderate negative impact at a local level for Brown Long-eared bats

9.4.5 Demolition of Buildings 1, 3 and 7 as part of proposed development will destroy all seven roosts at the site (comprising six pipistrelle day roosts and one common pipistrelle maternity roost). This will comprise a high

scale of impact at the site level, and a moderate scale of impact at the local and regional levels for common pipistrelle bats.

9.4.6 If conducted at an unsuitable time of year and in an inappropriate manner, the demolition of Buildings 1, 3 and 7 could result in the injury or death of up to 50 common pipistrelle bats. This will comprise a high scale of negative impact at the site level, and a moderate scale of impact at the local and regional levels for common pipistrelle bats.

Fragmentation and Isolation

Will the proposed works result in these impacts? E.g. Loss of linear features such as hedges, tree lines, increased lighting, severance of flight lines by roads/rail lines, separation of breeding/hibernation sites from feeding grounds etc.

E.g. In addition to the removal of Common Pipistrelle day roosts in trees along the proposed road, removal of hedgerows, and the construction of the new road will fragment a significant commuting and foraging route for a Lesser Horseshoe maternity roost. This may cause a reduction in the long term success of the breeding colony of Lesser Horseshoes by restricting existing foraging range or killing bats on the road. Potentially major negative impact at a site and local level.

9.4.7 The proposed development will retain the tree lines at the northern, eastern and southern site margins. It is considered that the proposals at the site will therefore not result in any fragmentation or isolation effects. Lighting surrounding the housing development will be screened and directional; illumination of retained trees and shrub lines will be avoided.

Post development interference impacts

Consider factors such as extra street lighting or other external lighting, use of loft space as storage, increased noise. Please also consider other direct or indirect post development impacts which may include disturbance/injury/killing

E.g. Security lighting being installed will shine on the Brown Long-eared Bat maternity roost access points which may affect emergence patterns and lead to a reduction in foraging times. This may cause a reduction in the long-term success of the breeding colony or cause the roost to be abandoned. Moderate to high negative impact at a site and local level.

9.4.8 No external lighting will shine over the proposed new roosting provision or tree lines at the northern, western and southern site boundaries. No significant post-development interference impacts are predicted.

Predicted scale of impact of this development/activity on species status (also see Section 6.5 of the Bat Mitigation Guidelines and the BCT's Bat Survey Good Practice Guidelines

Table 9.4: Predicted scale of impact of development/activity on species status

Species ***(& numbers which will be affected at the time works will be undertaken)***	**Roost type**	**Predicted Scale of Impact**			**Notes** ***(include impact on roost: damage/destruction/modification etc.)***
		Site	**County**	**Regional**	
Common pipistrelle (6)	Day	Low	Low	Low	Destruction of roost; compensatory roost proposed
Common pipistrelle (0)	Maternity	High	Moderate	Moderate	Destruction of roost; compensatory roost proposed
Roost types to be referred to as day, night, feeding, perch, transitional, satellite, maternity, hibernation, foraging area, commuting route, swarming site, other.					

Provide further comments/explanation as required (this helps understand how the impacts will be mitigation or compensated for)

9.4.9 Six pipistrelle day roosts will be destroyed by the demolition of Buildings 1, 3 and 7, and a maternity roost of common pipistrelle will be destroyed by the demolition of Building 7.

9.4.10 It is proposed to mitigate for the loss of the six day roosts and single maternity roost via:

a. The installation of three bat boxes (Schwegler 1FF) on retained mature trees at the site margins prior to the demolition of the buildings;

b. The installation of a single double-mount bat box at the south-eastern end of the site during the 2017 bat active season (and prior to the demolition of Building 7); and

c. Install seven bat access panels at suitable locations within the proposed development to ensure suitable habitats for roosting bats are present in the long-term at the site.

9.4.11 The proposed demolition will be conducted under the supervision of a suitably licensed bat worker.

9.4.12 The appropriate programme of works and a precautionary approach to demolition are proposed to ensure no bats are harmed during the course of the proposed development.

9.5 Mitigation and Compensation

The mitigation solution being proposed in the method statement should be the one that delivers the 'need' with the least impact on the bat population

Explain why this design was chosen over other potential solutions – set out what other designs were considered and why they were not feasible; if the proposal is to construct a new stand-alone roost, for example, explain why it is not possible to retain the roost in the existing structure)

9.5.1 Bats have been identified at an early stage and the design incorporates features which seek to replicate and enhance habitats suitable for use by the bat species associated with the site as part of the proposed development.

9.5.2 Suitable provision for use by pipistrelle bats will be installed at the proposed new buildings. This will secure the long-term viability of roosting bats at the site.

Capture and exclusion

The methods proposed – to include timings, effort, methods (please clearly state what will be used, e.g. use of endoscopes, one-way excluders, capture by hand (state in which referenced structures), disturbance by noise or light, destructive search by soft demolition etc) and equipment to be employed.

Timing

9.5.3 Due to the low conservation significance of the roost (individual bats of common species) in accordance with Figure 4 of the *Bat Mitigation Guidelines* (Mitchell-Jones 2004) there are no conditions regarding timing relating to the day roosts at Buildings 1, 3 and 7 (part). Works at Building 7 should be timed to avoid the maternity season however, and as best practice it is considered at this stage that the demolition of all buildings within the site can be timed to occur within the optimal period for carrying out works at a maternity roost, namely between October and May inclusive.

9.5.4 This is appropriate timing and will ensure that there is minimal risk of harming or disturbing roosting bats.

Pre-works Inspection

9.5.5 Due to the numerous possible egress/access points at Buildings 1, 3 and 7, and the timing measures proposed, it is considered that exclusion measures are unnecessary.

9.5.6 The timing measures proposed above, and presence of a licensed bat surveyor (Mr. Brian Robinson or Mrs. Victoria Burrows of ERAP (Consultant Ecologists) Ltd; both hold suitable Natural England Licences to undertake the works required at the site) present at the site at the time of demolition works to the building are sufficient that suitable precautions are in place to protect bats during the proposed demolition.

9.5.7 Initially the licensed bat surveyor will ensure that the double-mount bat box has been installed at a suitable location during the bat active season in 2017 (i.e. May to September inclusive).

9.5.8 The licensed surveyor will also ensure that three Schwegler 1FF bat boxes have been installed at a appropriate locations at a retained mature trees in order that suitable bat roosting provision is maintained at the site throughout the proposed demolition.

9.5.9 If works are to be conducted whilst temperatures are mild, and there is a chance that bats are still active, immediately prior to the commencement of demolition a precautionary dawn re-entry survey will be conducted to detect any bats entering the building. Following this, the licensed bat surveyor will be present during the commencement of demolition/roof strip at Roosts 2008-A, 2008-B, 2008-C, 2016-A, 2016-B, 2016-C and 2017-A.

9.5.10 Should bats be discovered, work will cease and appropriate action will be taken, as described below.

9.5.11 If weather conditions prior to the commencement of works are unsuitable for bat activity (i.e. protracted spells of cold weather during the autumn/winter period), then the dawn survey will not be conducted, but the roosting location will be carefully examined using a video borescope prior to commencement of works.

9.5.12 If bats are discovered during the works when the licensed bat worker is not present, all workers must withdraw from the area and the bat worker must be contacted for guidance (Brian Robinson or Victoria Burrows at ERAP (Consultant Ecologists) Ltd. on 01772 750502).

Should your proposals include capture (taking) please specify number of each species that will be affected at the time works are to be undertaken. Note: this may be different in many cases to the number of bats using the roost at its optimum time as timings for works will be at a time when bats are least likely to be present.

9.5.13 It is expected that, owning to the timing measures employed, no bats will be present at the time of demolition. Due to the type of roosts present (based on information to date), a worst-case scenario would disturb less than five common pipistrelle bats at the time of demolition.

Weather conditions during which licensed activities will be carried out, release sites, care of bats, unexpected discovery of bats, what would be done with any injured bats found.

9.5.14 Licensed activities which involve the careful, supervised destruction of known and likely roosting locations will be carried out under suitable weather conditions, i.e. dry, with low wind (Beaufort scale 2 or below).

9.5.15 If individual bats are discovered unexpectedly, including during periods of adverse weather, the following steps must be taken:

- Works in that area will stop immediately.
- If bats are discovered during works when the licensed bat worker is not present, all workers must withdraw from the area and the bat worker must be contacted for guidance (Brian Robinson or Victoria Burrows at 01772 750 502).
- The bat must not be exposed or caused to fly out of the roost of its own accord.
- The bat must only be handled by the licensed Ecologist. The bat must be carefully placed in a lidded ventilated box with a piece of clean cloth and a small shallow container with some water. The box must be kept in a safe, quiet location.
- Care must be taken to avoid rousing the bat during transfer to a suitable location (which may be a suitable hibernation box or other bat box), providing a safe, quiet environment with stable, suitable temperature and relatively high humidity, safe from further disturbance.
- Any underweight or injured bats will be taken into temporary care; both Brian Robinson and Victoria Burrows have several years' experience of caring for bats, and have successfully cared for both common and soprano pipistrelle, brown long-eared bats, Whiskered bats and noctule bats. The bats will be

looked after until such time that the bat can be transferred to a suitable replacement roost at the same site, or weather conditions are suitable for release at the same site.

Bat roost and access point retention, modification and creation

Detail how all impacts to each species will be mitigated. If not applicable to your proposals state N/A in the relevant text boxes.

Retention of existing roosts

Works may include, for example, maintenance works that result in no material changes to the roost but may cause disturbance or temporary damage e.g. temporary exclusion of a roost to allow investigative and repair works to a bridge.

Provide details of all works including:

Number and description of roosts to be retained, with an explanation of how they will be retained.

9.5.16 N/A: No roosts will be retained by the proposed demolition .

Number of access/entrance points to be retained and how this will be achieved, if enhancements to the roosts will be provided, such as through crevice provision, please detail

9.5.17 N/A: No enhancements are proposed.

Mitigation for any other impacts e.g. new lighting at the site

9.5.18 No lighting will directly illuminate the new proposed roosting locations.

Modification of existing roost(s)

Works may include, for example, reduction in roof void height, change of tiles and roof lining (stating type of membrane that will be used), alteration of access point through replacement of soffits etc.

Dimension details of modified roosts or access points ensuring that it is clear what the original dimensions were and what the dimensions of the modified roost will be.

9.5.19 N/A; no roost modification is proposed.

Details of any other modifications to be made to roosts.

9.5.20 N/A; no roost modification is proposed.

Mitigation for any impacts of lighting on the modified roost/s if applicable.

9.5.21 N/A; no roost modification is proposed.

Scale drawings of the modified roost and bat access points, orientation, location (including an 8 figure grid reference for the modified roost).

New roost creation (including bat houses, cotes and bat boxes etc).

Note – creation of compensation for high impact cases (e.g. loss of a maternity roost) must be protected in the long-term.

Any bat boxes or roost structures part of a licence proposed which do not show signs of bats must be retained for a minimum of 5 years from the date of completion of the development/works. Typically this will be around 5 years for low conservation status roost compensation (e.g. bat boxes) and longer for other, more significant roosts (e.g. bat houses, lofts etc). The exact time period will be specified in any licence

issued. For high conservation status roost loss, the compensation roost/s must still be protected in the long-term, by another means (such as a s106 agreement), which is particularly important if the structure is likely to change ownership.

Provide the following:

- *New roost dimension details or features (to include bat tiles/boxes as applicable.*
- *Access points and size of access points.*
- *Location details (including an 8-figure grid reference for bat houses or bat lofts relating to the structure, note required for bat boxes, tiles etc).*
- *Aspect. Explanation how the internal conditions of the roost will be created.*
- *Details on the materials to be used e.g. timber, sarking, felt etc.*
- *Justification for any variation from the original roost and/or deviations from recommendations in the Bat Mitigation Guidelines (diagrams of widely available standard bat box designs are not required, just refer to bat box name and reference number e.g. Schwegler 1FF).*
- *Mitigation for any impacts of lighting, if appropriate.*
- *Structures for access for monitoring/maintenance purposes (if applicable.*

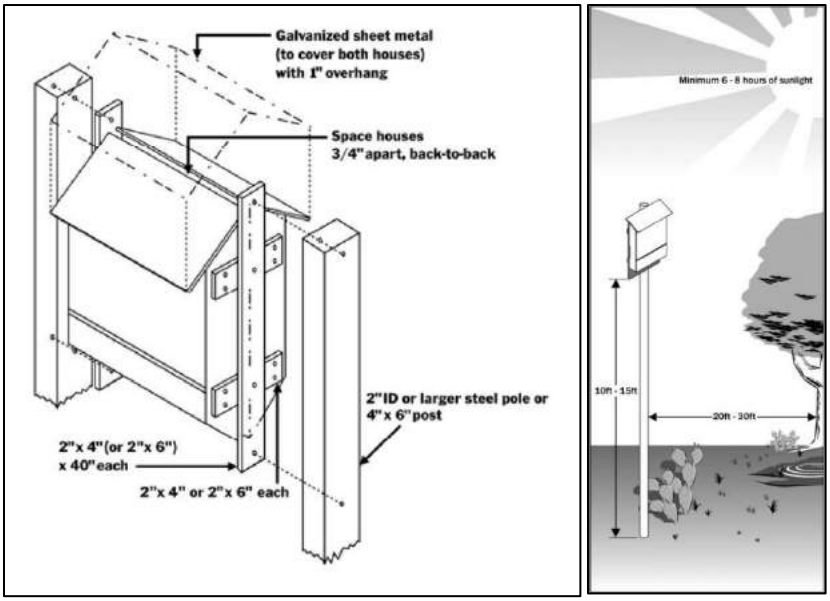
Roost provision 1: Prior to the commencement of demolition of Buildings 1 and 3

9.5.22 Refer to **Figure 8.5** and **Insert 1**, below**.** Three Schwegler 1FF bat boxes will be installed on suitable retained mature trees at the site boundary. The boxes will be positioned no lower than four metres from ground level.

Insert 1: Schwegler 1FF bat box

Roost provision 2: Prior to the commencement of demolition of Building 7

9.5.23 Refer to **Figure 8.5** and **Insert 2**, below. One double-mount bat box will be installed at the south-eastern corner of the site during the 2017 bat active season and prior to the commencement of any works.



Insert 2: Double Mount Post Box

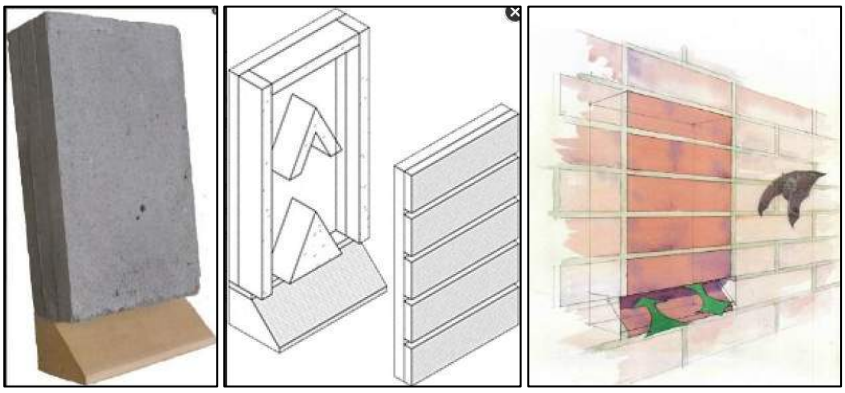
9.5.24 The double mount post box will be installed to the specification presented at page 4 of *Installing your Bat House – Wooden Post or Steel Pole Installation* (Bat Conservation International, 2013). This page is appended at **Section 10.0** of this report for ease of reference.

New Roost Provision 3: Bat Access Panels at New Residential Dwellings

9.5.25 Refer to **Figure 8.5**. Seven commercially available bat access panels, as provided by Habibat, will be installed during the construction of the new housing. These bat boxes can be faced to match the external render / brick type of the buildings.

9.5.26 These provisions will ensure bats are confined to the outer shell of any building to prevent any bats from entering the internal area of the proposed building.

9.5.27 Care will be taken to avoid siting the bat roost provisions above doorways or windows where accumulation of droppings may cause a nuisance, if occupied.



Insert 3: Habibat bat box

Other habitat re-instatement or creation

(e.g. retention of existing flight lines, retention or creation of appropriate vegetation around roost entrances where applicable).

Include details of:

Habitat replacement (following works resulting in temporary impacts) or creation not covered previously such as hedgerow/woodland planting or enhancement. State the length of hedgerow planting and areas (ha) of other planting to be provided such as woodland anticipated establishment period etc.

9.5.28 No habitat replacement/enhancement is proposed.

Creation of flight lines/routes of connectivity

9.5.29 No creation of flight lines/routes of connectivity are proposed; none will be impacted by the proposed development.

Foraging area enhancements

9.5.30 No creation of foraging area enhancement are proposed; no impact is predicted in terms of impacts upon foraging areas as a consequence of the proposed development.

Mitigation for any impacts of lighting if appropriate

9.5.31 No lighting will shine directly over the proposed new roosts. Only minor impacts as a consequence of lighting are predicted as a consequence of the proposed development.

Wider biodiversity gains

Indicate if enhancements, over and above what is necessary to mitigate the impact of the activity of the licensed proposed are being provided. Please indicate if the enhancements are included to satisfy the requirement of a planning permission, and if so state the relevant planning condition, or other consents in your response below. Please also state if an applicant wishes to provide more than is typically required to mitigate the impacts. Enter N/A if this is not applicable to your application.

9.5.32 It is considered that the measures proposed above will create suitable compensation for the loss of the roosts at the site, and retain suitable features for use by roosting bats in the long-term, thereby enhancing the site for use by roosting bats. No further actions are proposed.

9.6 Post development site safeguard

Habitat/site management and maintenance

Is any specific post-development habitat management and site maintenance planned? If no state N/A. If yes, include the following:

The period (years and months) for which habitat management will take place.

9.6.1 No specific management or maintenance is required other than the acknowledgement of the presence of bat activity and the consideration of the presence of bats in connection with any future works. In accordance with the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), no monitoring is required.

Details of what will be undertaken in terms of site maintenance required to ensure long-term security of the affected population (e.g. maintain, repair or re-instate access points, maintain and repair heaters and/or data loggers, maintain, repair or restore bat features/bat lofts in good condition, repair inspection hatches, management and maintenance of lighting regime, or bat boxes etc.

9.6.2 No specific management or maintenance is required other than the acknowledgement of the presence of bat activity and the consideration of the presence of bats in connection with any future works.

Details of what will be undertaken in terms of habitat management (e.g. planting cover around roost structure, hedgerow management regime, checking establishment of habitat creation, reduction of shade around roosts, woodland management to maintain species and structural diversity etc).

9.6.3 N/A. The proposed compensatory roosts have been located in order that they are already established in areas of good connectivity to existing features of value to foraging and commuting bats.

Population monitoring

This should be in line with the monitoring requirements detailed in the Bat Mitigation Guidelines Section 8.7 and Figure 4, and, where required, should include details of:

Timing: *State the years and months post development population monitoring or other will be undertaken.*

9.6.4 In accordance with the *Bat Mitigation Guidelines* (Mitchell-Jones, 2004), two years of monitoring is required at the site due to the presence of a maternity roost of common pipistrelle..

The type of monitoring which will be undertaken: *include survey methods and equipment to be used. If it is expected any bats are to be taken or disturbed during this period please state anticipated numbers per species against each licensable activity.*

9.6.5 Bat activity surveys will be undertaken at the proposed compensatory measures to determine their usage by bats. Daylight surveys of the bat boxes installed at the trees within the site and the double-mount bat box will also be undertaken. The surveys will be completed in the maternity season. Either dawn re-entry or dusk emergence surveys will be appropriate, using electronic bat detectors (such as heterodyne, and/or frequency division detectors).

Specify which compensation/mitigation measures will be subject to monitoring

9.6.6 Daylight inspections of the double-mount bat box and bat boxes installed on the trees will be undertaken. Dusk emergence / dawn re-entry surveys will also be undertaken at the Habibat bat access panels.

Mechanism for ensuring safeguard of mitigation/compensation and post-development management, maintenance and monitoring works

Explain what mechanism is in place to ensure safeguard of mitigation/compensation provisions (e.g. Restrictive Covenant, clause to relinquish future development rights in s106 agreement, NERC Act agreement, explicit recognition of site in local planning documents, designation as County Wildlife Site or similar). The need for this, and the type of mechanism, will vary with the scheme and impact. For substantial impact schemes (e.g. destruction of a significant maternity roost, or important hibernation site), some mechanisms is always required. If you offer no specific mechanism, explain how you believe the population will be free of threats as far as can be reasonably determined (the expectation of the granting of a licence should not be used for this purpose)

9.6.7 There is no requirement for a Section 106 agreement or other contractual agreement at this site.

9.6.8 All recommendations relevant to the demolition of Buildings 1, 3 and 7 are incorporated into this Mitigation Strategy.

Explain how all post-development works (management, maintenance (including remedial action) and monitoring, as appropriate) will be ensured? Include a commitment that the monitoring, habitat management and maintenance work will be undertaken. Mechanism/s for ensuring delivery must be in place before applying for a licence.

9.6.9 No specific management or maintenance is required other than the acknowledgement of the presence of bat activity and the consideration of the presence of bats in connection with any future works.

Timetable of works

Table 9.5: Timetable of Works

Activity	Timing	Comments
Pre-development activity		
Creation of standalone bat features	September 2017	The double mount-bat box must be installed during the bat active season, and at the latest September 2017.
Installation of bat boxes pre-development works	At any point	Can be conducted at any point provided it is prior to the commencement of demolition activities.
Permanent exclusion measures	N/A	None are proposed
Mid development activity		
Pre-works inspection by named ecologist	3 months prior to commencement of activities	In accordance with the requirement of a Natural England EPSM licence application,
Installation of protective measures	N/A	Not proposed
Disturbance by noise, illumination or vibration	N/A	Not proposed
Temporary exclusion measures	N/A	Not proposed
Permanent exclusion measures	N/A	Not proposed
Capture exercise	N/A	Not proposed.
Destructive search by soft demolition	Between October and May inclusive	In accordance with best practice guidance. May only commence following receipt of Licence.
During Development		
Mechanical demolition of all or part of structures, once declared free of bats	N/A	Not proposed.
Construction period start date	TBC	Following receipt of planning permission and receipt of Natural England EPSM licence.
Site checks and maintenance during construction	N/A	Not proposed
Post construction mitigation/compensation on 'development' site or other	N/A	During construction of new residential dwellings
Creation of mitigation/compensation post-development (e.g. installation of bat tubes, bricks, boxes, access points etc.)	TBC	At any point
Habitat re-instatement or restoration	N/A	Not proposed
Hedgerows or woodland planting	N/A	Not proposed

Table 9.6: Post development works (leave blank for no activity

Year	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Monitoring					Y	Y						
Habitat Management												
Site maintenance												

9.7 Declaration

If the mitigation/compensation area/s is/are not owned by the applicant, you must have consent from the relevant landowner(s). You must have also secured details of how any measures to maintain the population in the long-term will be achieved (e.g. a legal agreement).

Declaration Statement(s):

I confirm that relevant landowner consent/s has/have been granted to accept bats into roosts or access into roosts in land outside the applicants ownership

9.7.1 Actions relating to the provision of the bat boxes and bat access panels will take place on land in the ownership of the client.

I confirm that the landownership consent/s has/have been granted to allow the creation of the proposed compensation on land outside the applicant's ownership.

9.7.2 Actions relating to the provision of the bat boxes and bat access panels will take place on land in the ownership of the client.

I confirm that consent/s has/have been granted by the relevant landowner/s for monitoring, management and maintenance purposes on land outside the applicant's ownership.

9.7.3 Actions relating to the provision of the boxes and bat access panels will take place on land in the ownership of the client.

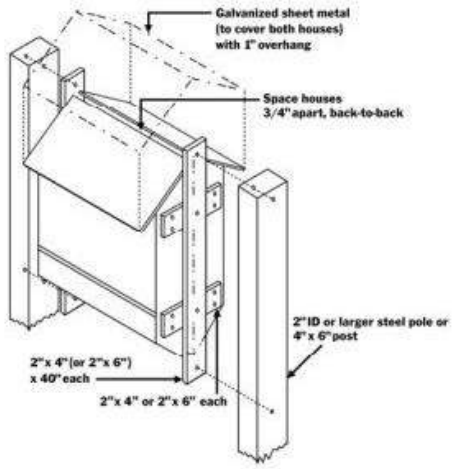
9.8 Definitions of roost types to be included in the application

a. Day roost: a roost where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer
b. Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be regularly used by the whole colony.
c. Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present during the day.
d. Transitional/occasional roost: used by a few individuals or occasionally small groups for generally short period of time on waking from hibernation or in the period prior to hibernation.
e. Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites.
f. Mating sites: site where mating takes place from later summer and can continue through winter.
g. Maternity roost: where female bats give birth and raise their young to independence.
h. Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity.
i. Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.
j. Other: provide explanation what the roost type is if not one of the above (it is recognised that roost types are interchangeable and not always easy to classify according to the nuances of certain species).

10.0 APPENDIX 3: DOUBLE POLE MOUNTED BAT BOX SPECIFICATION

TWO BAT HOUSES ON A WOODEN POST
(Double Post Mount)

You Will Need:
2 4"x6" pressure treated wooden posts (at least 16')
Pea gravel
2"x4" or 2"x6" boards
  4 boards cut to depth of both bat houses + ¾"
  2 boards cut to at least 6"longer than bat houses
1 5/8" exterior grade screws
3" exterior grade screws
3/32" bit (to pre-drill screw holes)
8" lag bolts, hex bolts, or carriage bolts
Drill bit sized for bolts
Wrenches to fit bolts
Exterior grade adhesive caulk (optional)
Wood clamps or spring clamps
Tape measure, Pencil, Electric Drill
Post hole digger
Tamp stick



Instructions:
* Multi-chambered houses only
* Make sure there are no underground wires, pipes or cables – you'll be digging about 3 feet down.
* Wooden posts tend to rot when set directly in concrete or cement. Use pea gravel instead.
*Mounting two bat houses back-to-back on poles (with one facing north and the other south) is ideal. Place houses ¾ inch apart and cover both with a galvanized metal roof to protect the center roosting space from rain.

1) Cut four 2"x4" boards a length that equals the depth of both bat houses plus ¾". These will attach the bat houses to each other with a ¾ "gap between.

2) Measure and drill pilot holes to ensure screws will attach securely to the bat house frame and do not protrude inside the bat house roosting crevices. The bat house frame typically extends down the sides and along the top 1 ½".

3) Apply adhesive caulk (optional) between the boards and the bat house and attach the boards to the bat house using 1 5/8" screws. You may want to clamp the boards prior to drilling to ensure they stay in place.

4) Cut the vertical mounting boards (one on each side) six inches longer than the bat house. Center the board on top of the horizontal mounting boards so the ends of the board extend at least 3 inches above and below the bat house. Secure the vertical board to the horizontal boards with 3" screws. Make sure the screws do not protrude into the roosting chambers.

5) Pre-drill holes at the top and bottom of the vertical mounting boards, and secure the bat houses to the post with lag screws, hex bolts, or carriage bolts.

6) For poles up to 16 feet, use a post-hole digger (or auger) to dig a hole about 34" and about twice the width of the post. Add an additional 2" of depth for each additional foot of post beyond 16 feet. Tamp the bottom of the hole to make sure it is level.

7) Set the post in the ground and orient it to face the bat house in proper direction (generally south or southeast). Brace the post if needed with scrap wood to ensure it remains straight. Fill the hole with pea gravel, tamping firmly after each three-inch layer of gravel.

Page 4 of *Installing your Bat House – Wooden Post or Steel Pole Installation* (Bat Conservation International, 2013).

Four-chamber Nursery House

Materials (makes two houses) • *Diagrams on pages 12 & 13*

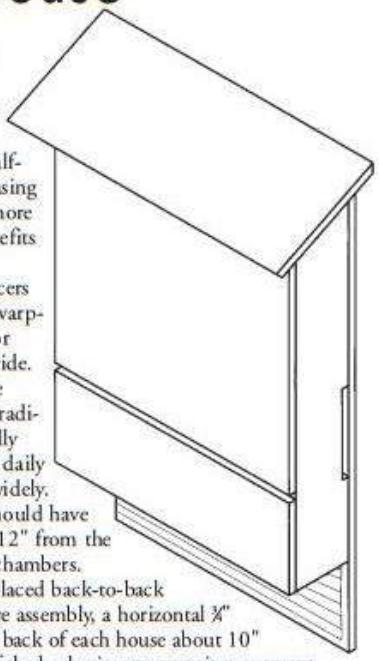
½ sheet (4' x 4') ½" AC, BC or T1-11 (outdoor grade) plywood
½ sheet (4' x 4') ¾" AC or BC (outdoor grade) plywood
Two pieces 1" x 6" (¾" x 5½" finished) x 8' pine or cedar
One lb. coated deck or exterior-grade screws, 1⅝"
20 to 25 coated deck or exterior-grade screws, 1¼"
20 to 25 exterior-grade screws, 1"
One quart dark, water-based stain, exterior grade
One quart water-based primer, exterior grade
Two quarts flat water-based paint or stain, exterior grade
One tube paintable latex caulk
Black asphalt shingles or galvanized metal
12 to 20 roofing nails, ¾"

Recommended tools

Table saw or circular saw	Paintbrushes
Variable-speed reversing drill	Hammer (optional)
Screwdriver bit for drill	Tin snips (optional)
Tape measure or yardstick	Bar clamp (optional)
Caulking gun	Sander (optional)

Construction

1. Measure, mark and cut out all wood according to the sawing diagrams on pages 12 and 13.
2. Roughen interior and landing surfaces by cutting horizontal grooves with sharp object or saw. Space grooves ¼" to ½" apart, cutting ½" to ⅛" deep.
3. Apply two coats of dark, water-based stain to interior surfaces. Do not use paint unless the grooves are quite deep.
4. Attach side pieces to back, caulking first. Use 1⅝" screws. Make sure top angles match.
5. Attach 5" and 10" spacers to inside corners per drawings on page 12. Use 1" screws. Roost-chamber spacing will be ¾" (front to back). Do not block side vents.
6. Place first roosting partition on spacers even with bottom edge of roof. Place 20" spacers on partition and screw to first spacers (through partition), using 1¼" screws.
7. Repeat step 6 for remaining spacers and partitions.
8. Attach front to sides, top piece first (caulk seams). Be sure top angles match (sand if necessary). Leave ½" vent space between top and bottom front pieces. A bar clamp may be useful if sides have flared out during construction.
9. Attach roof supports to the top inside of front and back pieces with 1" screws. Don't let screws protrude into roosting chambers.
10. Caulk around all top surfaces, sanding first if necessary to ensure good fit with roof.
11. Attach roof to sides and roof supports with 1¼" screws. Caulk around roof and side joints to further guard against leaks and drafts. Don't let screws protrude into roosting chambers.
12. Paint or stain exterior three times (use primer for first coat).
13. Cover roof with shingles or galvanized metal.



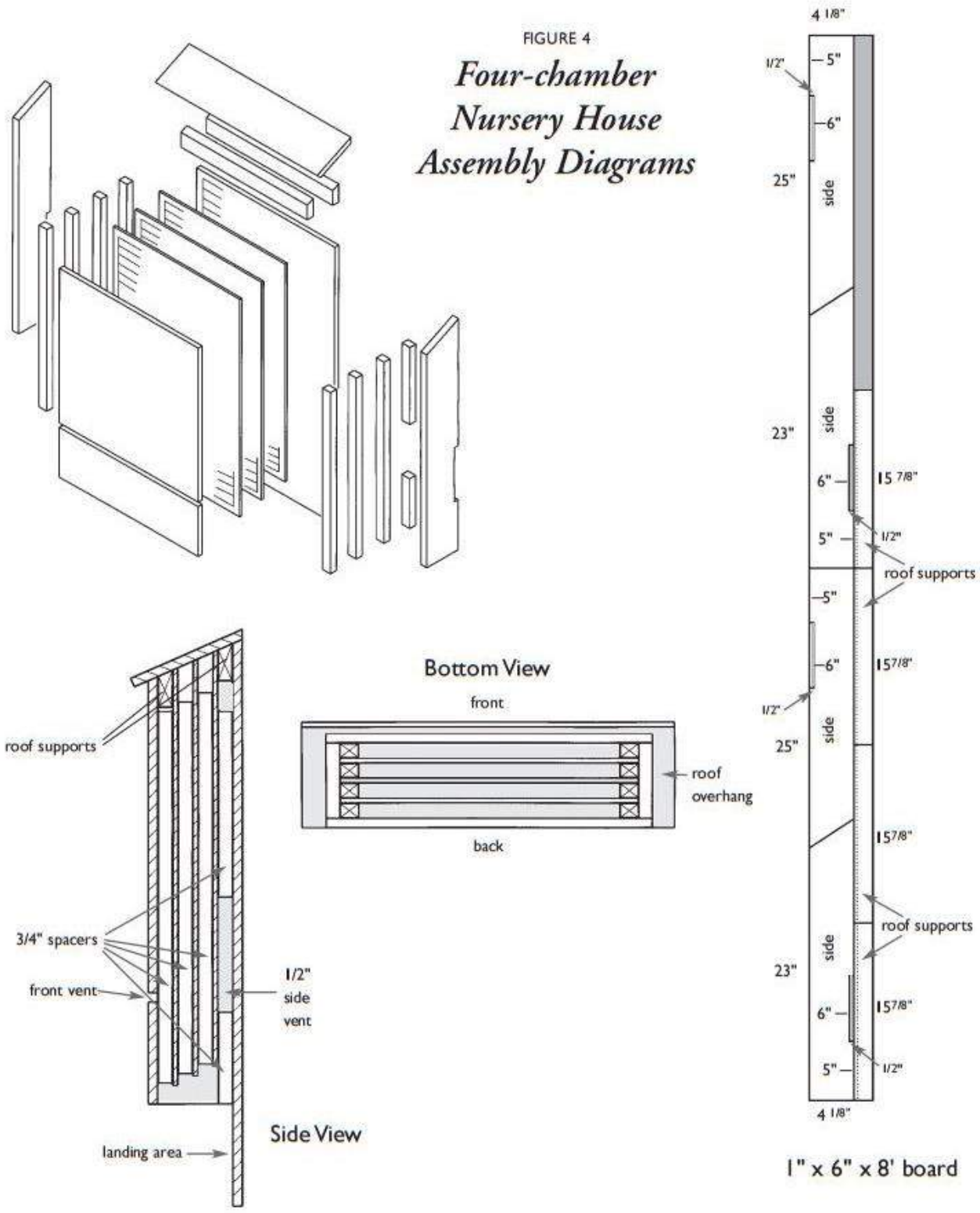
Optional modifications

1. These nursery-house dimensions were chosen to permit construction of two bat houses per half-sheet of plywood. Increasing house width to 24" or more or adding partitions benefits bats and attracts larger colonies. Additional spacers are required to prevent warping of roost partitions for houses more than 24" wide.
2. Taller bat houses provide improved temperature gradients and may be especially useful in climates where daily temperatures fluctuate widely. Bat houses 3' or taller should have the horizontal vent slot 12" from the bottom of the roosting chambers.
3. Two bat houses can be placed back-to-back mounted on poles. Before assembly, a horizontal ¾" slot should be cut in the back of each house about 10" from the bottom edge of the back piece to permit movement of bats between houses. Two pieces of wood, 1" x 4" x 10¾", screwed horizontally to each side, will join the two boxes. Leave a ¾" space between the two houses, and roughen the wood surfaces or cover the back of each with plastic mesh. One 2" x 4" x 40" vertical piece, attached to each side, over the horizontal pieces, blocks light but allows bats and air to enter. Use a 2" x 6" vertical piece if securing houses with U-bolts to metal poles. A galvanized metal roof that covers both houses protects them and helps prevent overheating. Eaves should extend about 3" in front in southern areas and about 1½" in the north.
4. Ventilation may not be necessary in cold climates. In that case, the front of the bat house should be a single, 23"-long piece. Far-northern bat houses may also benefit from a partial bottom to help retain heat. Slope the sides and bottom at an angle of 45° or greater to reduce guano build-up. Leave a ¾" entry gap at the back and be sure the bottom does not interfere with access to the front crevices. A hinged bottom is required to permit annual cleaning.
5. Durable plastic mesh can be substituted for roughening. Attach mesh to backboard, landing area and one side of each partition after staining interior, but prior to assembly. Use only ¼-inch HDPE plastic mesh (such as "bat house netting XV1672" from www.industrialnetting.com/bat_houses.html) and attach every two inches with ⅜" stainless steel staples.
6. Make partitions removable by attaching small cleats with thumbscrews to the bottom of side pieces for support. Spacer strips are unnecessary if grooves for partitions are cut in the side pieces with a router or dado saw blade.

Page 11 of *The Bat House Builder's Handbook* (Tuttle, et al., 2013)

FIGURE 4

Four-chamber Nursery House Assembly Diagrams



Page 12 of *The Bat House Builder's Handbook* (Tuttle, et al., 2013)