BAT SURVEY REPORT

Beeswing Lodge

Nichola Carruthers

July 2019

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Quality Control

Report Status: FINAL

	Name	Signature	Date	Version
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Reviewed by	Ian Craft		28/07/2019	1
Issued by	Ian Craft		30/07/2019	1

BAT SURVEY REPORT

Beeswing Lodge, Elsdon, Otterburn NE19 1AP

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Appendices

1.0 EXECUTIVE SUMMARY

1.0.1 Total Ecology Ltd. was commissioned by Crawford Higgins Associates on behalf of Ms Nicola Carruthers in March 2019 to undertake a building risk assessment for bats at Beeswing Lodge, Elsdon, Otterburn NE19 1AP. The approximate National Grid Reference for the centre of the site is **NY 94719717.**

1.0.2 The survey is required to accompany a planning permission application to renovate the existing building. The building risk assessment survey took place on the 28th March 2019 and was undertaken by Ian Craft (licensed bat worker no. 2015-15085-CLS-CLS) and Ally Vitali (Trainee bat worker).

1.0.3 Based upon the building features recorded during the external and internal assessment, the building was assessed as having a roost present due to the large number of droppings found attached to the interior walls. The prominent features and evidence are described in section 4. It was also deemed that there was a potential for bats to roosts within gaps and crevices present on the exterior of this building.

1.0.4 It was therefore recommended that three nocturnal surveys be carried out on the building during the bat activity season (May – September). Surveys were undertaken on 22nd May 2019, 19th June 2019 and 14th July 2019.

1.0.5 In summary, a total of 59 bats passes were recorded during the nocturnal surveys. Species recorded were common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, Daubenton's bat *Myotis daubentonii* and an unidentified *Myotis* species. One roost was identified across the three nocturnal surveys, with a bat observed entering a gap above the pipe on the northern gable end during survey 3 (Figure 5, Appendix A; Photograph 11, Appendix B).

1.0.6 The building is due to be renovated internally and extended from the southern gable end. The extension to the southern gable should not impact the observed roost located on the northern gable end. As such it is deemed the proposed works will not result in the disturbance, modification or loss of any bat roosts and therefore will not impact upon bat populations.

1.0.7 it is recommended that a bat box is fixed onto a nearby tree prior to commencement of works. This should be a longer life woodcrete or woodstone box. The box should

be situated as high up the tree as possible and a minimum of 3m from the ground.. This will provide suitable roosting opportunities for bats whilst the works take place.

1.0.8 No re-pointing works will take place on the gable end where the roost is located. If re-pointing works are required any other aspects then existing crevices will be maintained by inserting a roofing lath into the crevice and then mortaring around it, the lath can then be withdrawn leaving an access point. If the lath is angled downwards this will prevent water ingress.

1.0.9 It is recommended that additional provision is provided for swallows and house martins The swallow nests should be placed leaving a distance of at least 6cm between the top of the nest and the ceiling. House Martin nests should be sited underneath the eaves (or purpose built nests are available where no eaves are present) at a minimum height of 2m above the ground. Boxes should not be placed on a southern elevation. Specific nest designs are available for mounting on buildings with no suitable overhang. Further advice if necessary on product choice and placement can be provided by Total Ecology.

2.0 INTRODUCTION

2.1 Background

2.1.1 Total Ecology Ltd. was commissioned by Crawford Higgins Associates on behalf of Ms Nicola Carruthers in March 2019 to undertake a building risk assessment for bats at Beeswing Lodge, Elsdon, Otterburn NE19 1AP. The approximate National Grid Reference for the centre of the site is **NY 94719717.**

2.1.2 The survey is required to accompany a planning permission application to renovate and extend the existing building. The building risk assessment survey took place on the 28th March 2019 and was undertaken by Ian Craft (licensed bat worker no. 2015-15085-CLS-CLS) and Ally Vitali (Trainee bat worker).

2.1.3 Based upon the evidence collected and the building features recorded during the external and internal assessment, the building was assessed as having a confirmed bat roost. The internal assessment resulted in the finding of multiple bat droppings attached to the walls of the south face of the northern gable end (Photograph 4, Appendix B) and the north face of an internal dividing wall (Photograph 5, Appendix B). The droppings were found on the brickwork above the level of the previously removed ceiling. As the ceiling was removed prior to the bat risk assessment, additional droppings that may have dropped to the upper side of the ceiling may have been removed also. The external assessment found droppings attached to the wall, just below the wall plate level adjacent to an extraction unit (Photograph 6, Appendix B). Further suitable external features were also noted, for a description see section 4.

2.1.4 Three nocturnal surveys were carried out on the building during the bat activity season (May – September). Surveys were undertaken on 22nd May 2019, 19th June 2019 and 14th July 2019.

2.2 Site Description

2.2.1 The site is located near Elsdon, approximately 32km north of Hexham and 45km north-west of Newcastle-upon-Tyne. The building onsite consists of an unoccupied residential cottage. The stone-built building is part-way through renovation and lacks internal features (including ceilings/loft spaces). A commercial caravan park is situated nearby to the west (approximately 200 metres). Very few other buildings are present within the surrounding landscape. Agricultural land is predominant in the surrounding area and includes both arable and grazed fields. The majority of fields around the site exhibit vegetated boundaries in the form of intact or defunct

hedgerows and/or treelines. The nearest extensively wooded area starts located approximately 50 metres to the north of the site. Several watercourses are present within the area with the nearest being located within 20 metres of the site. The site links well to higher quality habitat in the wider countryside through linear features such as field boundaries and treelines (Figures 1 and 2, Appendix A).

2.3 Survey Objectives

2.3.1 Surveys were undertaken to:

- establish the presence / absence of bat roosts in the buildings on site,
- assess the level of usage of confirmed roost sites and the status of the roost,
- identify access points utilised by bats,
- determine an appropriate mitigation strategy to minimise impacts on roosting bats arising from the proposed works.

3.0 METHODOLOGY

3.1 Desk Study

3.1.1 A request was issued to Northumberland Bat Group for any information regarding protected/controlled species on, or in the direct vicinity of the site. The Magic website was searched for the details of Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR) within 2km of the site.

3.2 Survey Approach

3.2.1 The survey for bats involved external and internal examination of the properties following the methodology outlined in the Bat Worker's Manual (Mitchell-Jones and Mcleish 2004). The survey was undertaken by Ian Craft (Licence no. 2015-15085-CLS-CLS) and Ally Vitali (Trainee bat worker) on 28th March 2019.

3.3 Buildings

3.3.1 The buildings' exteriors were visually assessed for potential access points and evidence of bat activity in March 2019. Features which have potential as access points were sought, such as small gaps in barge/soffit/fascia boards, raised or missing ridge tiles or flashing and gaps in mortar, brick and/or stonework. Evidence that potential access points were actively used by bats including staining within gaps and bat droppings or urine staining under gaps was recorded. Indicators that potential access points were likely to be inactive included the presence of cobwebs and general detritus within the access.

3.3.2 The interior of the buildings was also visually assessed where possible for evidence of bat activity and/or for the potential to be used by bats. Evidence of a roost was determined as the presence of a dead or live bat, concentrated piles or scattered droppings, food remains such as insect wing fragments as well as scratch marks and/or staining.

3.4 Nocturnal Surveys

3.4.1 The nocturnal surveys were conducted by surveyors equipped with Batbox duet, Echo Meter 3 and EM Touch bat detectors, positioned to give a clear view of all sides of the building being surveyed. The emergence survey commenced 15 minutes before sunset and continued until all bats were considered to have emerged in accordance with the Bat Conservation Trust Guidelines (BCT, 2016). The dawn surveys commenced 90 minutes before sunrise and continued until 15 minutes after sunrise (BCT, 2016).

Table 1 Survey dates and personnel

Date	**Surveyor 1**	**Licence No**	**Additional Surveyors**
21/05/2019	Andrew Bewick	**2015-10154-CLS-CLS**	Rachel Galler
Sunset: 21:21 Start: 21:06 End: 22:51			
Temp: S/8°C E/8 °C			
Weather: Light wind No rain			
19/06/2019	Rachel Galler	-	Ali Allen
Sunset: 21:52 Start: 21:37 End: 23:22			
Temp: S/14°C E/14°C			
Weather: Light wind No rain			
14/07/2019	Jonathan Pounder	**2015-11439-CLS-CLS**	David Pounder
Sunrise: 04:44 Start: 03:14 End: 04:59			
Temp: S/12°C E/12°C			
Gentle breeze No rain			

3.6 Surveyor Experience

3.6.1 **Ian Craft (Licence no. 2015-15085-CLS-CLS)**

Ian has held a bat licence for around 7 years and has been carrying out commercial bat surveys for around 12 years. During this time he has carried out on average 20-30 risk assessments each year and 50-100 nocturnal surveys for projects ranging from wind farms to large scale housing developments and individual barn conversions. He has also been involved in preparing and submitting EPSM bat licences for a range of developments and is a registered consultant on the BLICL scheme.

3.6.3 **Andrew Bewick (Licence number 2014-923-CLS-CLS)**

Andrew has 30 years' experience in the field of ecology and countryside management delivering a range of species and habitat protection measures, ecological impact assessments and species and habitat monitoring. He has commissioned and participated in bat studies and projects since 2005, primarily to inform development proposals and site management. His bat work has included daytime assessments, point and transect activity surveys, endoscopy and hibernation roost inspection. Andrew holds both science and conservation, and roost visitor licences, is a member of Durham Bat Group and a Volunteer Bat Worker for Natural England (since 2010).

3.6.4 **Jonathan Pounder (Licence number CLS 2015-11439-CLS-CLS)**

Jonathan is a licensed member of Durham Bat Group (since 2007) and has been working on commercial bat surveys since 2003. Surveys have included risk assessments, small scale domestic surveys, barn conversions, larger commercial properties, traditional and heritage buildings, large scale developments and wind farm (development and monitoring); including emergence, dawn, feeding, transects, roost inspections, overseeing demolition work and contractors during work relating to licensed operations.

3.6.5 **Ally Vitali**

Over the last two years Ally has undertaken a number of surveys including surveying for emergence, returns and completing transects on industrial buildings, farms and farmland, and residential properties. He has also performed tree surveys and bat tracking surveys. He has shadowed on tree and building risk assessments on numerous occasions, as well as performing monitoring of bat boxes and purpose-built mitigation buildings.

3.6.6 **David Pounder**

David has worked on commercial bat surveys since 2005 including emergence, dawn and feeding surveys; firstly, as a supported, but now an experienced surveyor. David has worked on risk assessments, small scale domestic surveys, barn conversions, larger commercial properties, traditional and heritage buildings, large scale developments and wind farm (development and monitoring); including emergence, dawn, feeding, transects across the North East of England.

3.6.7 **Ali Allen**

Ali received intensive in-house training at the start of the 2019 bat season and since then has carried out a number of surveys across various projects including churches and large-scale housing developments.

3.6.8 **Rachel Galler**

Rachel has received intensive in-house training both in 2018 and 2019. She has conducted nocturnal bat surveys across a number of different sites from houses to farm buildings and historic properties over the past two years

4.0 SURVEY RESULTS

4.1 Desk Study and Consultation Response

4.1.1 The results obtained from the MAGIC search of designated areas show that there is one Sites of Special Scientific Interest (SSSIs) within 2 km of the site; Billsmoor Park and Grasslees Wood located approximately 0.5 km south of Beeswing Lodge. The MAGIC search also returned one Local Nature Reserve (LNR) within 2 km of the site; Grasslees Burn Wood, approximately 1 km to the south-west.

4.1.2 A request was sent to Northumberland Bat Group seeking any information regarding bat species on, or within 2km of the site. Northumberland Bat Group data revealed 12 records of bats between 2015 and 2017. Species recorded are common pipistrelle *Pipistrellus pipistrelus*, soprano pipistrelle *Pipistrellus pygmaeus* and unidentified bats of the *Myotis* genus. The data also revealed 3 bat roost records from 1986 to 1987. Species recorded roosting are unidentified pipistrelle species and Natterer's bat *Myotis nattereri*. The 3 roosts are all approximately 5 km north-east of the site, in Hepple.

4.2 Habitat Description

4.2.1 The site is located in Elsdon, approximately 32km north of Hexham and 45km north-west of Newcastle-upon-Tyne. The building onsite consists of an unoccupied residential cottage positioned alongside the A68. The site sits in a large area of arable and pasture fields on all elevations with woodlands to the immediate north and west. The closest built up area is the village of Elsdon, situated 4km to the south. Locally there is a caravan park situated 50m away to the west and small farms farther to the west and north-east. The nearest watercourse, Grasslees Burn, runs alongside the site to the north; additionally, there are further burns 1 km to the far west (Loaning burn) and 1 km to the north-west (Penchford Burn). The woodland to the immediate north provides good foraging habitat with the nearby burns possibly being used for commuting, as well as foraging. The further surrounding area appear to have good connected woodland and hedgerow stretches in all directions (Figure 2, Appendix A).

4.3 Internal/ External Surveys

4.3.1 Full details of the findings of the building assessments can be found in Table 3 with photographs in Appendix B and building reference plan shown in Figure 3, Appendix A.

4.3.2 Overall, the exterior of the building had well maintained mortar, however, potential access points were noted at the top of the stonework in the area between the wall and the start of the wall plate on the eastern and western elevations (Photographs 6 and 9, Appendix B) . The buildings slate roof had several slightly raised edges present (Photographs 9 and 10, Appendix B). The ridge tile mortar had aged and cracked, and in places was missing, giving potential for entry (Photograph 10, Appendix B). Internally, potential roosting features were also noted which included gaps between wooden beams and walls and gaps between the overlapping felt between rafters. Bat droppings found within the building were subjected to DNA analysis and came back as Brandts *Myotis brandtii* bat and Soprano Pipistrelle.

4.3.3 The building was assessed as having a confirmed roost due to the presence of bat droppings on the internal and external walls. The numerous potential access points into the interior spaces and under the roofing slates provide the opportunity for entry to the interior. This on-site evidence is further enhanced by the suitable commuting and foraging habitat in the immediate vicinity to the building. Table 2 below shows the features considered when attributing a level of potential to a building.

4.3.4 **Table 2** Guidelines for assessing the potential suitability of proposed development sites for bats. (BCT 2016).

* For example temperature, humidity, height above ground, light levels, levels of disturbance

Suitability	Description Roosting Habitats	Commuting and Foraging Habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions* and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRF's but with none seen from the ground or features seen only with very limited roosting potential.	Habitat that could be used by small numbers of commuting bat such as a gappy hedgerow or vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions* and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – irrespective of species conservation status).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use	Continuous, high-quality habitat that is well connected to the wider landscape that is likely

	by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions* and surrounding habitat.	to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees, and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broad-leaved woodland, treelines watercourses, and grazed parkland. Site is close to and connected to known roosts.

4.3.5 **Table 3** Building Structural Features.

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points (Photographs 4-10, Appendix B).	Internal features (Photographs 4 and 5, Appendix B)	Evidence (Photographs 4-6, Appendix B)
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
A **Photographs 1 – 3, Appendix B**	Single storey stone-built cottage with a pitched slate roof. uPVC doors and window frames were present.	✓	X	X	X	X	✓	None noted.	Some gaps between the ridge tiles and slates (Photographs 9 and 10). Some minor gaps between slightly raised roof slates (Photographs 9 and 10). Some access to wall tops (Photograph 6).	Part-way through renovation, no ceilings throughout (Photographs 4 and 5). Single load-bearing wall with slope following roof (Photograph 5). Previous loft void not present at time of risk assessment (Photographs 4 and 5).	Multiple bat droppings found at top of internal northern gable end wall (Photograph 4). Multiple bat dropping found at top of interior dividing wall (Photograph 5). Few droppings found on exterior below guttering (Photograph 6).

4.4 Nocturnal Surveys

4.4.1 Three nocturnal surveys were carried out on 22nd May 2019, 19th June 2019 and 14th July 2019. The dates and surveyor details relating to the nocturnal survey undertaken are given in Table 1. Weather conditions during the surveys were optimal with no rain and appropriate ambient air temperatures and timings.

4.4.2 In summary, a total of 59 bat passes were recorded during the nocturnal surveys. Species recorded were common pipistrelles, soprano pipistrelle and Daubenton's bat. An unknown species of *Myotis* was also recorded during the surveys. Both commuting and foraging activity were recorded on the site, with most feeding noted to be on the northern and western edges. A single common pipistrelle roost was identified across the three nocturnal surveys, with a bat observed entering a gap in the northern elevation gable end on survey 3 (Figures 5, Appendix A; Photograph 11, Appendix B).

4.4.3 *22nd May 2019*, *Dusk Emergence Survey*.
No bat activity was recorded during the first of the three surveys. No roost was observed during this survey.

4.4.4 *19th June 2019, Dusk Emergence Survey:* Figure 4, Appendix A.
Activity was relatively low during this survey, with upwards of 37 bat passes recorded over the survey. Some commuting and foraging bats were recorded across the site, with most foraging to the northern woodland outside the site. Most bats recorded were common pipistrelle, however soprano pipistrelle, noctule, Daubenton's and unidentified species of myotis bat were also recorded. No roost was observed during this survey.

4.4.5 *14th July 2019, Dawn Re-entry Survey*: Figure 5, Appendix A
Activity was lower on this survey than the previous dusk survey, with just 22 bat passes but one roost was recorded. A single common pipistrelle was observed re-entering the northern elevation of the building (Building Reference A, Figure 3, Appendix A) at 04:16, this was into a gap, of missing concrete, situated between the gable end stone work and the slate roof (Figure 5, Appendix A; Photograph 11, Appendix B).

5.0 ASSESSMENT

5.1 Constraints to Survey

5.1.1 The bat risk assessment was conducted in March when bat species are active. However, bat species utilise a number of roosts throughout the year and a lack of evidence should not therefore be considered proof of a lack of bat roost, as roosts remain protected throughout the year, including periods during which they are not occupied.

5.2 Potential Impacts of Development

5.2.1 The proposed works to renovate and extend the building do not impact the observed roost. This is true as long as the identified gap in the building is not re-pointed or affected in any way (Figure 5, Appendix A; Photograph 11, Appendix B).

5.2.2 *Short-term impacts: disturbance*

It is considered unlikely that there will be any disturbance from the proposed works as they currently stand

5.2.3 *Long-term impacts: roost modification*

The roosts on site are not due to be modified, therefore impacts from modification are not applicable.

5.2.4 *Long-term impacts: roost loss*

The roost on site is not due to be lost so there will be no impacts from the loss of the roost.

5.2.5 *Long-term impacts: fragmentation and isolation*

The site is surrounded immediately by woodland, which provides good foraging habitat for bats. Connectivity to other areas is also largely through woodland and hedgerows between fields further afield. No works are planned for the woodland. Therefore, there will be no impact from fragmentation and isolation.

5.3 Legislation

5.3.1 All bat species and their roosts in Britain are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA) through their inclusion on Schedule 5. The implementation of the Countryside and Rights of Way Act 2000 (CRoW 2000) has amended the WCA 1981 to include ‘reckless’ damage to, or destruction of a roost, and disturbance of bats whilst in a roost.

5.3.2 Bats are also included on Annex IV of Council Directive 92/43/EEC of 21st May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as the Habitats Directive). As a result of the United Kingdom ratifying this directive, all British bats are protected under The Conservation of Habitats and Species Regulations 2017. Combined, these make it an offence to kill, injure, capture or disturb bats or obstruct access to, damage or destroy roosts.

5.3.3 Paragraph 43 of the Regulations states: A person who deliberately disturbs wild animals of any such (European Protected) species, is guilty of an offence. For the purposes of this paragraph, the disturbance of animals includes in particular any disturbance which is likely: -

a. to impair their ability-

i. To survive, to breed or reproduce, or to rear or nurture their young, or

ii. In the case of animals of a hibernating or migratory species, to hibernate or migrate; or

b. to affect significantly the local distribution or abundance of the species to which they belong.

5.3.4 Under the law, a bat roost is any structure or place used for shelter or protection e.g. a building, bridge or tree. Bats use many roost sites and feeding areas throughout the year and they tend to re-use the same roosts for generations.

5.3.5 All British birds, their nest and eggs are protected in law under Part 1 of the Wildlife and Countryside Act 1981 (WCA 1981) (as amended). It is an offence (with exception to species listed in Schedule 2) to deliberately take, kill or injure any wild bird or to take, damage, or destroy any nest or egg of any wild bird. As a Schedule 1 listed bird, building owls receive further protection (WCA 1981). It is an offence to disturb a building owl, unless under licence, 'while it is building a nest or is in, on or near a nest that is containing eggs or young' or to 'disturb dependent young of such a bird'.

5.4 National Planning Policy Framework

5.4.1 The NPPF outlines government planning policies and how they should be applied within local authorities. The framework places an emphasis on sustainable development, encouraging the re-use of land that has previously been developed over using land that has a higher environmental value and by minimising impacts on biodiversity. The NPPF states that developments should aim to conserve or

enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

5.5 UK and Local Biodiversity Action Plans (BAP)

5.5.1 Noctule *Nyctalus noctule and* soprano pipistrelle *Pipistrellus pygmaeus* are listed as UK priority species (UKBAP, 2007). Actions for conservation effort have been identified for each of these species, which includes consideration of the effects of land use, the promotion of habitat creation, enhancement and improvement and the protection of roosts via the implementation of legislation and policy.

5.5.2 Several species of bat are listed as UK priority species (UKBAP, 2007). There are ten species of bat known to occur in Northumberland, which has a generic local BAP which aims to cover all species of bats recorded within the district as species of conservation concern (NBAP, 2014). All bat species are therefore included under the NERC Act

5.6 Natural Environment and Rural Communities (NERC) Act

5.6.1 The Natural Environment and Rural Communities (NERC) Act (2006) identifies a list of habitats and species which are of principal importance for the conservation of biodiversity in England. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. The UKBAP species list was used to create the S41 list of priority species.

5.7 Legal Implications of Proposed Development

5.7.1 The results of the surveys indicate the presence of one small, occasionally used day roost for common pipistrelle within the Beeswing Lodge building. In summary, one roost was located in building reference A, identified during the nocturnal surveys. The building is in the process of being renovated and extended, the current proposed plans do not impact the roost location as the extension is from the opposite (southern) gable end and the renovation work is internal.

6.0 RECOMMENDATIONS AND MITIGATION

6.1 Survey Conclusions

6.1.1 Based upon the building features recorded during the external and internal assessment, the building on site was assessed as having a confirmed roost containing bats. The nocturnal survey requirement is determined through reference to the recommended bat survey guidance (BCT, 2016) and based upon the assessed potential of the surveyed buildings to contain roosting bats. Following this guidance, three nocturnal surveys were undertaken on 22nd May 2019, 19th June 2019 and 14th July 2019. The dates and surveyor details are given in Table 1. Weather conditions during the surveys were optimal with no rain, and appropriate ambient air temperatures and timings.

6.1.2 In summary, bat activity was seen to vary across the 3 surveys. Upwards of 59 bat passes from 5 species were recorded. Species recorded were common pipistrelles, soprano pipistrelle, noctule, Daubenton's bat and an unidentified *Myotis* species. There was also some commuting and foraging recorded across the site, with most foraging in the woodlands to the immediate north of the edge of the site.

6.1.3 A single common pipistrelle roost was identified across the three nocturnal surveys, with a bat observed entering a gap in the northern elevation gable end on survey 3 (Figures 5, Appendix A). (Photograph 11, Appendix B).

6.2 Mitigation and Enhancement Measures

6.3.1 The following mitigation strategy has been designed to offset any impacts arising from the works. Mitigation and compensation will be provided to maintain the population of bats affected at a favourable conservation status on completion of works with an overall net increase in available roost sites thereby also complying with current planning policy.

6.3.2 Replacement bat roosting habitat will be provided prior to the start of any works on site to provide roosting habitat during and after the construction phase.

6.3.3 As the building is due to be renovated, it is recommended that a wall mounted bat box is fixed onto a nearby tree. This should be a longer life woodcrete or woodstone box. The box should be situated as high up the tree as possible and a minimum of 3m from the ground.. This will provide suitable roosting opportunities for bats whilst the works take place.

6.3.4 No re-pointing works will take place on the gable end where the roost is located. If re-pointing works are required any other aspects then existing crevices will be maintained by inserting a roofing lath into the crevice and then mortaring around it, the lath can then be withdrawn leaving an access point. If the lath is angled downwards this will prevent water ingress.

6.3.5 It is recommended that additional provision is provided for swallows and house martins The swallow nests should be placed leaving a distance of at least 6cm between the top of the nest and the ceiling. House Martin nests should be sited underneath the eaves (or purpose built nests are available where no eaves are present) at a minimum height of 2m above the ground. Boxes should not be placed on a southern elevation. Specific nest designs are available for mounting on buildings with no suitable overhang. Further advice if necessary on product choice and placement can be provided by Total Ecology.

6.3.6 No foraging or commuting habitat will be lost by the proposals, consequently no habitat mitigation/ enhancements are proposed.

7.0 REFERENCES

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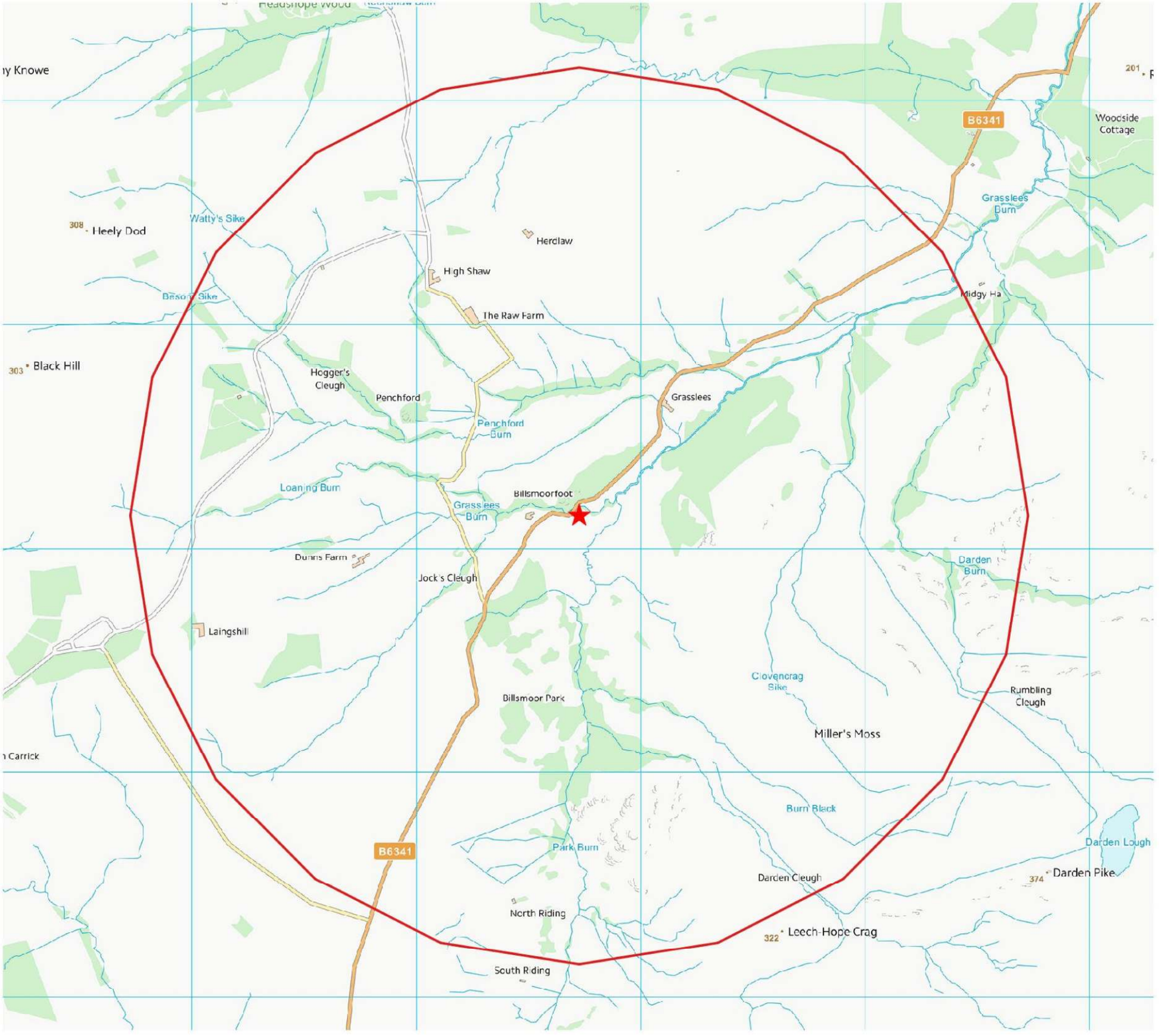
APPENDIX A

Figure



Legend

- Site location
- 2 km Buffer

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Project	Beeswing Lodge, Elsdon
Title	Site Location
Client	Crawford Higgins Associates
Date	19/07/19
Ref	Figure 1

Legend

Beeswing Lodge

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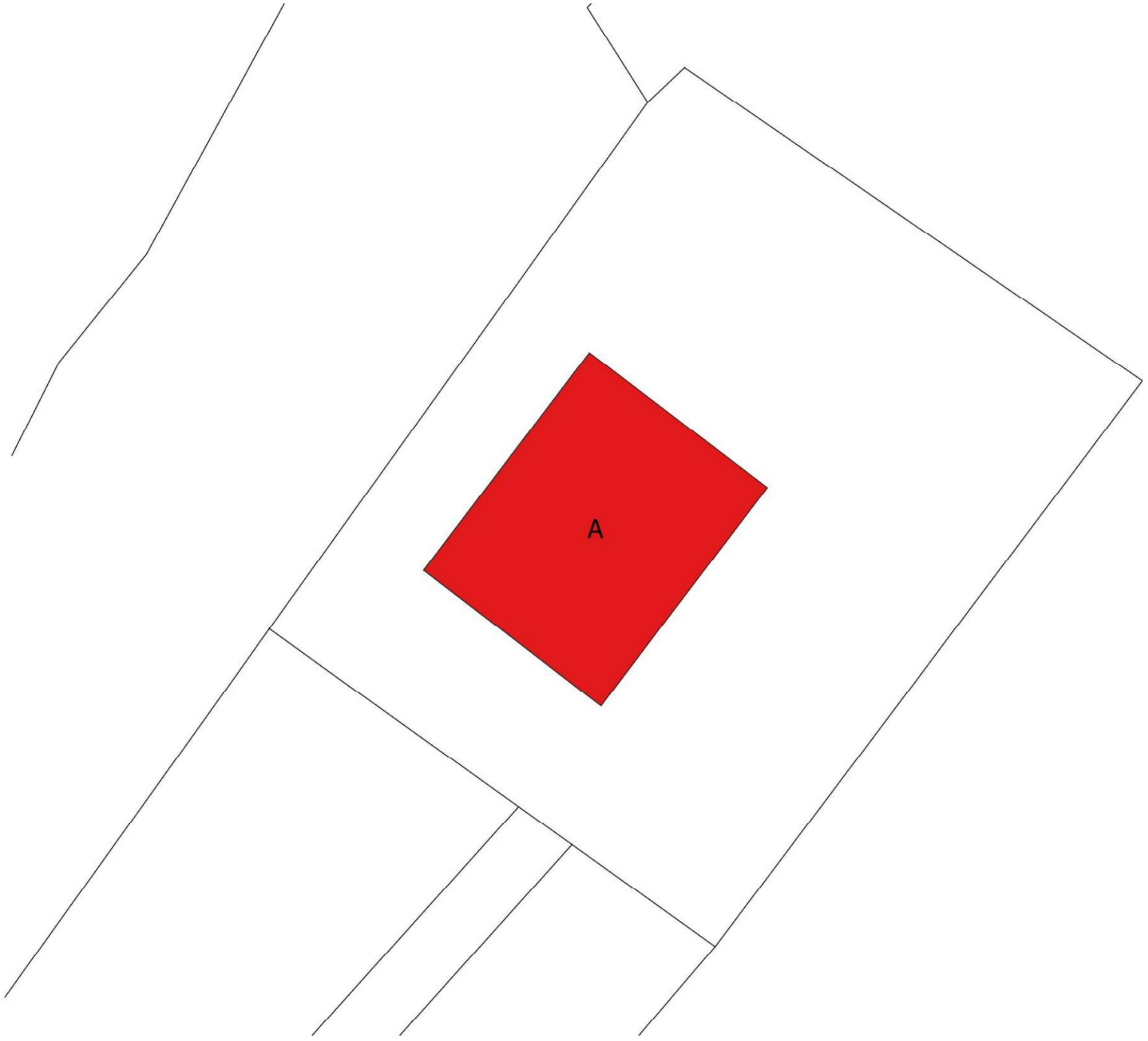
Project	Beeswing Lodge, Elsdon
Title	Aerial Showing Surrounding Habitat
Client	Crawford Higgins Associates
Date	19/07/19
Ref	Figure 2



Legend

Beeswing Lodge

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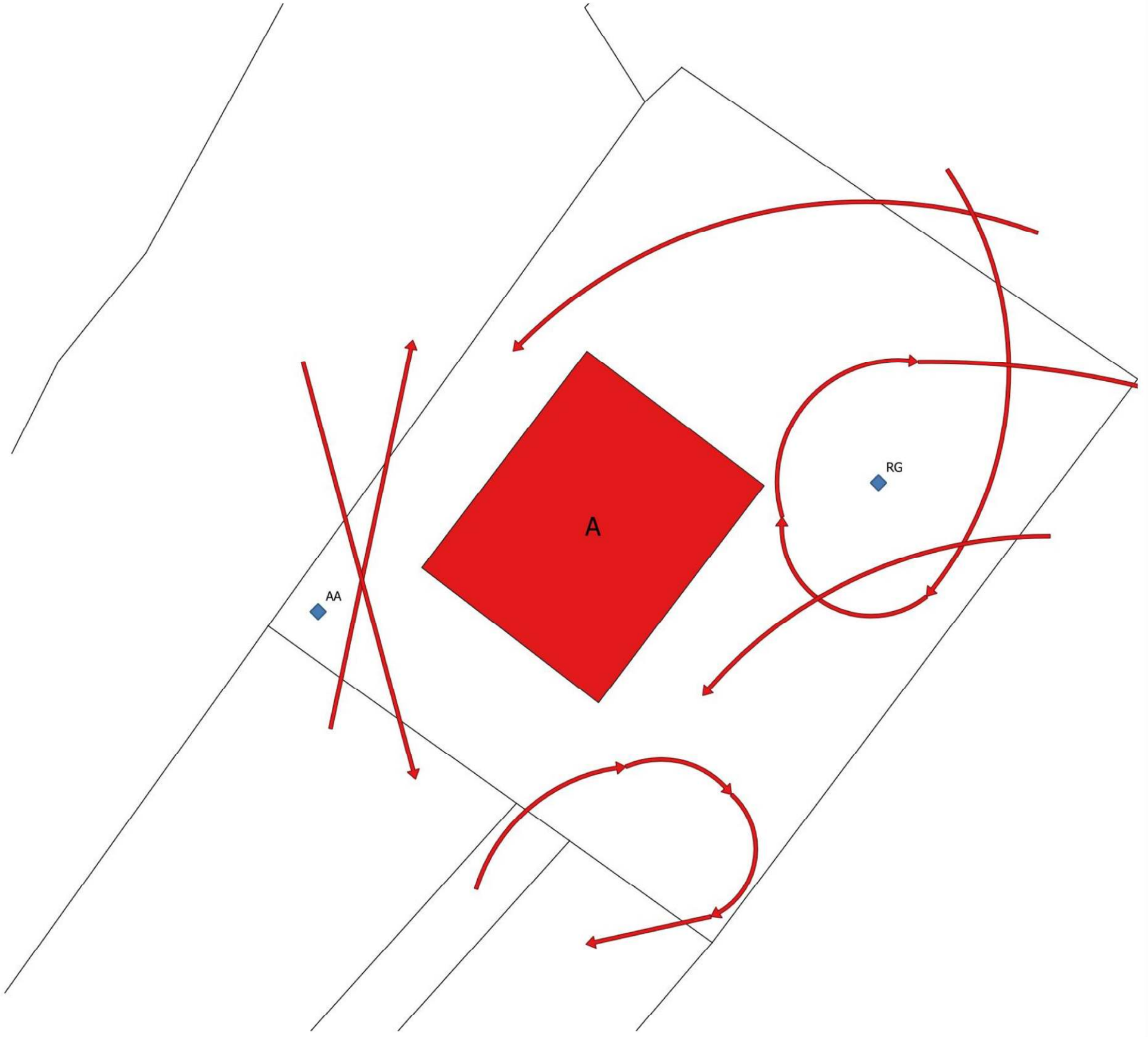
Project	Beeswing Lodge, Elsdon
Title	Building Plan
Client	Crawford Higgins Associates
Date	19/07/19
Ref	Figure 3



Legend

- Beeswing Lodge
- Surveyor Location
- Commuting

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Project	Beeswing Lodge, Elsdon
Title	Nocturnal Survey Plan; Dusk, 19th June
Client	Crawford Higgins Associates
Date	19/07/19
Ref	Figure 4

Legend

- Beeswing Lodge
- Surveyor Location
- Commuting
- Roost Location
- Foraging Area

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Project	Beeswing Lodge, Elsdon
Title	Nocturnal Survey Plan; Dawn, 14th July
Client	Crawford Higgins Associates
Date	19/07/19
Ref	Figure 5

APPENDIX B

Selected Photographs

Photograph 1 – Building reference A, southern gable end and eastern elevation.

Photograph 2 – Building reference A, northern gable end and eastern elevation.

Photograph 3 – Building reference A, northern gable end and western elevation.

Photograph 4 – Building reference A, interior south face of northern gable end.

Photograph 5 – Building reference A, south face of interior dividing wall.

Photograph 6 – Building reference A, feature on western elevation.

Photograph 7 – Building reference A, southern elevation gable end.

Photograph 8 – Building reference A, southern elevation gable end features.

Photograph 9 – Building reference A, western facing roof.

Photograph 10 – Building reference A, western facing roof features.

Photograph 11 – Building reference A, northern gable end with bat re-entry location circled.

APPENDIX C
Raw Survey Data

Survey Type	Dusk Emergence Survey				
Date	22nd May 2019				
Weather	Dry, light wind, temperature 8°C – 8°C				
Sunset/rise	21:21				
Start Time	21:06				
End time	22:51				
Figure	N/A				
Record ID	**Time**	**Number**	**Species**	**Activity**	**Recorder**
				No bat activity recorded during this survey	AB, RG

Survey Type	Dusk Emergence Survey				
Date	19th June 2019				
Weather	Dry, light wind Temperature 14°C – 14°C				
Sunset/rise	21:52				
Start Time	21:37				
End time	23:22				
Figure	4				
Record ID	**Time**	**Number**	**Species**	**Activity**	**Recorder**
1	22:22	1	*Myotis sp.*	Commuting	RG (Not Seen)
2	22:27	1	*Myotis sp.*	Commuting	RG (Not Seen)
3	22:29	1	*Myotis sp.*	Commuting	RG (Not Seen)
4	22:30	1	Unknown	Commuting	AA (Not seen)
5	22:31	1	Soprano Pipistrelle	Feeding	RG
6	22:32	1	Common Pipistrelle	Commuting	AA (Not seen)
7	22:33	1	Unknown	Commuting	RG (not seen)
8	22:35	1	Unknown	Feeding	RG
9	22:37	1	*Myotis sp.*	Commuting	RG (not seen)
10	22:39-22:41	2	Soprano Pipistrelle	Commuting	RG, AA (Not seen)
11	22:40	1	Common Pipistrelle	Commuting / Feeding	RG
12	22:42	1	Common Pipistrelle	Commuting	AA
13	22:42	1	Unknown	Commuting	RG (Not seen)
14	22:43	1	Soprano Pipistrelle	Commuting	RG (Not seen)
15	22:46	1	Soprano Pipistrelle	Commuting	AA (Not seen)
16	22:46	1	Unknown		RG (Not heard)
17	22:46-22:53	1	*Myotis sp.*	Commuting	RG
18	22:46	1	*Myotis sp.*	Commuting	RG

19	22:46-22:48	2	Soprano Pipistrelle	Feeding	RG
20	22:48	1	Soprano Pipistrelle	Commuting	AA (Not seen)
21	22:48	1	Unknown	Commuting	AA (Not seen)
22	22:51	1	Unknown	Commuting	AA (Not seen)
23	22:54	1	Soprano Pipistrelle	Commuting	RG
24	22:55	2	Common Pipistrelle	Commuting	RG (not seen)
25	22:55	1	Unknown	Commuting	RG (Not seen)
26	22:56	1	Common Pipistrelle	Commuting	AA (Not seen)
27	22:59	1	*Myotis sp.*	Commuting	RG (Not seen)
28	23:00	1	Soprano Pipistrelle	Commuting	AA (Not seen)
29	23:01-23:03	2	*Myotis sp.*	Feeding	RG
30	23:02	1	Unknown	Commuting	AA
31	23:08	1	Soprano Pipistrelle	Commuting	RG (Not Seen)
32	23:10-23:11	1	*Myotis sp.*	Commuting	RG, AA (Not seen by both)
33	23:14	1	*Myotis sp.*	Commuting	AA (Not seen)
34	23:14	1	Unknown	Commuting / Feeding	RG
35	23:16	1	Unknown	Commuting	RG (Not seen)
36	23:19	1	Soprano Pipistrelle	Commuting	RG (Not seen)
37	23:20	1	Noctule	Commuting	RG (Not seen)

Survey Type	Dawn Return Survey				
Date	14th July 2019				
Weather	Dry, light wind Temperature 12°C – 12°C				
Sunset/rise	04:44				
Start Time	03:14				
End time	04:59				
Figure	5				
Record ID	**Time**	**Number**	**Species**	**Activity**	**Recorder**
	03:24	1	Common Pipistrelle	Feeding	DP (Not seen)
	03:28	1	Daubenton's Bat	Commuting	JP (Not seen)

	03:29	1	Daubenton's Bat	Feeding	JP (Not seen)
	03:29	1	Common Pipistrelle	Feeding	DP
	03:32	2	Daubenton's Bat	Feeding	JP
	03:32	1	Common Pipistrelle	Feeding	DP (Not seen)
	03:33	1	Daubenton's Bat	Commuting	JP
	03:34	1	Daubenton's Bat	Feeding	JP
	03:35	1	Daubenton's Bat	Commuting	JP
	03:35	1	*Myotis sp.*	Feeding	DP (Not seen)
	03:41	1	Daubenton's Bat	Feeding	JP
	03:41	1	*Myotis sp.*	Feeding	DP (Not seen)
	03:52	1	Daubenton's Bat	Feeding	JP
	04:05	1	Daubenton's Bat	Commuting	JP
	04:08	1	Daubenton's Bat	Commuting	JP
	04:12	1	*Myotis sp.*	Commuting	DP
	04:13	1	*Myotis sp.*	Commuting	DP
	04:15	1	Common Pipistrelle	Feeding	JP
	04:16	1	Common Pipistrelle	Re-entry	JP
	04:26	1	Daubenton's Bat	Commuting	JP

APPENDIX D
Report Conditions

TOTAL ECOLOGY LTD

REPORT CONDITIONS
Beeswing Lodge, Elsdon, Otterburn NE19 1AP

This report is produced solely for the benefit of Nichola Carruthers and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

Unless otherwise instructed any records collected will be submitted to the body holding environmental records for the area.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Total Ecology Ltd. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Total Ecology Ltd using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to Total Ecology Ltd by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other

structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Total Ecology Ltd accept no liability for issues with performance arising from such factors

July 2019