Phase 9,
Heyford Park

Preliminary Bat and Bat Emergence Surveys 2019

On Behalf of:
The Dorchester Group

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4 Acre Ecology Limited

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1. Executive Summary

1.1 Heyford Park is a former military base with the first buildings built in 1926 (Central Grid Reference SP 51432577), with various additions since then, especially when it was used as an American Air Base. This was decommissioned in 1994 and many of the buildings have been unoccupied since.

1.2 Previous bat surveys by EPR in 2001, 2002, 2006 and 2007, plus more recent surveys by Thomson Ecology in 2010 and 2011 4 Acre Ecology in 2014 identified bat roosts in the residential area of the old camp. A European Protected Species Licence for bats (EPSM 2012-5157C) was then obtained from Natural England to undertake the demolition works and construct 641 new housing units on the site.

1.3 However, Phase 9 covers a different area, a kilometre to the west, the former school, which Aspect Ecology surveyed in 2015, finding three minor feeding perches of Natterer's and Brown Long-eared bats. These buildings are to be demolished so updated bat surveys are required to determine the current status of the buildings and inform the licence application.

1.4 The Preliminary Bat Survey update was undertaken on 14th June 2019 by an experienced Ecologist with a Natural England Bat Survey Class Licence (Class Licence Registration Number 2015-13769-CLS-CLS). The buildings were assessed for roost potential and evidence of bats.

1.5 Evidence of feeding perches for Brown Long-eared bats were found in two locations, with scattered moth wings a few bat droppings found elsewhere.

1.6 The emergence surveys were carried out in late June 2019. No Brown Long-eared bats were seen emerging, so the occasionally used feeding perches were confirmed as such. However, a single Soprano Pipistrelle bat emerged from the corridor adjoining Building 866, confirming the presence of a day roost used by a single bat.

1.7 The demolition work can proceed under a Bat Mitigation Class Licence site registration, as there are only three minor roosts of commonly occurring species present. The method statement to be followed is covered in this report.

1.8 Enhancements to help fulfil some of the principles of the NPPF have been put forward

2. Introduction

Background

2.1 Heyford Park is the former RAF Base of Upper Heyford, Oxfordshire (Central Grid Reference SP 51432577). The base was originally built in 1926 and has had many additional buildings constructed up until the 1980s. The base was decommissioned in 1994 and many of the buildings have been empty since. However, the park has been increasingly used as a light industrial area around the former flying field, with occupied housing centrally to the south of Camp Road.

2.2 For the last ten years there have been plans to redevelop the site into mixed business and residential uses, divided roughly north and south of Camp Road, the majority of the housing to the south and most of the business areas to the north.

2.3 The work has progressed under a Bat Mitigation Licence, but a new area, the former school, now has proposals for additional housing.

2.4 4 Acre Ecology undertook bat surveys of the buildings on the northern edge of the old school site in 2013 prior to their demolition in 2014. The remainder of the site was surveyed by aspect Ecology in September 2016, confirming the presence of three Brown Long-eared bat feeding perches, although the emergence surveys observed no emerging bats.

2.5 The planning permission has now been obtained and updated bat surveys are required to inform the site registration.

2.6 The Dorchester Group commissioned 4 Acre Ecology Limited on 12th March 2019 to undertake updated Bat Surveys of the buildings.

Aims and Objectives

2.7 The aim of the surveys was to determine how bats used the buildings to roost in, suggesting the mitigation required. The objective was to allow the demolition of these buildings whilst maintaining the conservation status of bats within the local area.

3. Methodology

Desk Study

3.1 The Multi-Agency Geographical Information for the Countryside (MAGIC) website was consulted to determine if there were any sites designated for bats within 5 km of the site. The Thames Valley Environmental Records Centre (TVERC) was consulted for bat records within 2km of the site. Past survey reports were consulted to provide detailed records for the site.

Field Survey

Preliminary Bat Survey Update

3.2 An external and internal inspection of the buildings was made by a Natural England Licensed bat surveyor (Class Licence Registration Number 2015-13769-CLS-CLS). The exterior of the buildings were searched for evidence of bats, looking for grease stains in external crevices and searching for droppings on windows sills, windows, walls and ledges and on the ground below potential entrance/exit areas to the roof or walls.

3.3 The interior of the buildings, and in particular the loft or roof spaces, were searched using high powered torches for evidence of bats. This evidence includes sightings, dead bats, feeding remains, smell, droppings and grease marks at entry/exit points. The potential of the buildings as bat roosts was judged and any signs of bats or features offering roost potential were noted.

Bat Emergence Survey Update

3.4 To update the surveys already carried out it was determined that a Dusk emergence survey of the site would be adequate to update the status of the use of the buildings by bats, but to get a better spread of conditions these would be carried out across two evenings.

3.5 For dusk surveys the surveyors arrive half an hour before sunset and continue to survey for up to two hours after sunset, to allow for late emerging bat species.

3.6 As the buildings were a large complex with many roofs four surveyors on two occasions were required to cover all aspects of the site.

3.7 Surveyors were equipped with Echo Meter Touch bat detectors connected to an IPad for immediate analysis and later recordings. Surveyors also had standardised recording forms, a map of the site and building, pencils, a weather writer and head-torch with replacement batteries.

3.8 Any registrations of bats on the detectors and/or direct observations of bats or their behaviour were noted with the time on the recording forms and a location of this on the map. As emergence from the roost was a priority, surveyors did not always see passing bats out of their line of vision and would therefore mark where they were standing when the registration occurred. Most bats were identified by the surveyors by sound through experience, but the recordings allowed verification and identification of unknown bats where required.

3.9 The survey data was summarised into the number of passes by each species, the location of exit/entrance points in the building and the type of behaviour (e.g. foraging or emerging). Where direct observations of bats emerging/re-entering were made, these are depicted on a plan.

4. Legislation and Planning Policy

4.1 There are a number of tiers of legislation protecting wildlife in England and Wales. The highest tier is for those species protected by European Legislation, such as the Dormouse, Great Crested Newt, Otter and all species of bat. These are known as European Protected Species (EPS), which gain their protection from the Conservation of Habitats and Species Regulations (Habitat Regulations) 2017, whereby under section 43 it is an offence to;

- deliberately capture, injure or kill an EPS
- deliberately disturb or take/destroy the eggs of an EPS
- damage or destroy a breeding site or resting place of an EPS

4.2 Nationally protected species are either fully protected (e.g. Water Vole) or partially protected (e.g. Adder or Smooth Newt) under the Wildlife and Countryside Act (WCA) 1981 and amendments, including the Countryside and Rights of Way Act (CRoW) 2000. Under the WCA it is an offence to:

- intentionally kill, injure or take any wild bird, take or destroy any wild bird egg or take, damage or destroy any nest while it is in use or being built
- intentionally or recklessly disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird
- intentionally or recklessly at any other time take, damage, destroy or otherwise interfere with any nest habitually used by any wild bird included in Schedule A1
- intentionally or recklessly kill, injure or take from the wild or possess all or any part of a Schedule 5 species
- intentionally or recklessly damage or destroy any structure or place which a schedule 5 species uses for shelter or protection, or disturb a schedule 5 species while it is occupying such a place
- obstruct access to any structure or place which a schedule 5 species uses for shelter or protection
- intentionally pick, uproot or destroy any wild plant included in Schedule 8

4.3 The CRoW Act 2000 added the term recklessly after intentionally in the Wildlife and Countryside Act 1981 and introduced a maximum custodial sentence of 6 months for offences.

4.4 The Natural Environment and Rural Communities Act 2006 (NERC) made provision about bodies concerned with the natural environment and rural communities and in connection with wildlife, sites of special scientific interest, National Parks and the Broads. Section 41 established a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity. This is known as the UK Biodiversity Action Plan (BAP) list.

4.5 The National Planning Policy Framework (NPPF) updated in July 2018 states that Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

4.6 To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

4.7 b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

5. Results

Desk Study

5.1 No protected sites designated for bats were identified within 5 km of the site (MAGIC, 2012).

5.2 TVERC held two records of bats within 2km of the site, one Common Pipistrelle and one Brown Long-eared bat.

5.3 Previous surveys by EPR in 2001, 2002, 2006 and 2007, plus more recent surveys by Thomson Ecology in 2010 and 2011 and 4 Acre Ecology in 2012 identified 32 minor roosts and one maternity roost on the overall site. Additional surveys of Building 74 (The Officer's Mess) found maternity roosts for Common Pipistrelles and Brown Long-eared bats, with a number of summer and transitional roosts. Conversion works to create a Free School for the site are being carried out under a European Protected Species Mitigation Licence (EPSM2013-6341A)

5.4 120 buildings were demolished 1.4km to the east of the current site to make way for new housing. There are roosts in 12 of these, for which a European Protected Species Licence has been gained to carry out the works legally (EPSM2012-5157B).

5.5 A set of emergence surveys were carried out on two blocks of buildings and a water tower at the northern end of the site in 2013, following a Preliminary Bat Survey that found no evidence of bats in these buildings, but a single bat dropping was found in a toilet block in Building 821. No bats emerged and Buildings 804-815 were subsequently demolished.

5.6 New surveys on the whole of the former school site were undertaken in 2015, with four dusk and dawn surveys targeting three areas where scattered bat droppings were found, in Buildings 821, 822 and 859. No bats emerged from the buildings, which were classified as Brown Long-eared feeding perches.

Field Survey

Preliminary Bat Survey Update

5.7 The survey was undertaken on 14th July 2019. This was a dry day with 30% cloud cover, a light wind and a temperature of 20.0 degrees centigrade.

Local Context

5.8 The site is situated on the former RAF Upper Heyford Airbase, with many old hangers and military buildings on all sides, separated by amenity grassland and standard trees. Beyond these there are the main air-fields to the north and the former accommodation

houses to the south. There are woodland strips and some open water to the east. Further away from the site arable fields with species poor hedges dominate.

5.9 Over the past six years the former accommodation blocks to the east have been demolished and replaced with a mixed development of mainly housing, but with the development of a new town centre now underway.

5.10 Beyond the village of Upper Heyford to the west lies the River Cherwell and the Oxford Canal.

5.11 The military numbered all their buildings, so these numbers have been used in the building descriptions to avoid potential confusion, as the number are marked on each of the onsite buildings. To give these new numbers that are unrelated to the buildings, as was done for the 2015 surveys, could cause confusion on the ground.

Buildings 821-837, 846-866, 868-885 and 891-905

5.12 These are all single storey buildings, with low twin-pitched roofs that are covered in corrugated asbestos sheeting (See Figure 2). The walls are constructed of single skin brick that is covered by render, with some small holes in places where the render is beginning to crumble. With no management for over twenty years, hawthorn and bramble scrub has grown up around many of the buildings, with the remaining 'open' areas being tall grass

5.13 The buildings are interlinked directly into six blocks of generally twelve rooms, with five rooms forming a line to the north of each block and six to the south, although the southern two blocks are the mirror image of this, with six buildings on the northern side and five on the southern side of the blocks. The rooms are connected within each block by two north-south corridors, the central one of which goes through the former toilet and shower area that forms the twelfth room in each of the six blocks (See Figure 1).

5.14 Buildings 804-15 have been demolished in 2014, leaving Buildings 822 and 827-32 and Buildings 821 and 833-37 to form the remaining two blocks on the north side of the complex (See Figure 1). There are large rubble piles to the north of building 822 and own the west side of the site, while building materials and rubble from other areas on the former base are stored to the south.

5.15 The eaves of these buildings are generally well sealed, but there are gaps at the gable apexes where there are air vents on the outside. There are doors in the gable ends or on the sides of the buildings towards the northern ends, with windows lining the eastern and western of each building where it is not butted into the adjacent buildings, with similar windows in the corridors. Many of these windows have broken panes, while access has been created by vandals where the exterior doors have been kicked in in the past.

5.16 The interior is divided into a number of rooms, but the roof space is generally open to the floor with vaulted ceilings that are lined by hardboard sheets beneath the asbestos sheets, but with limited insulation (See Figure 2). Within a single building in each block there is a section with a suspended ceilings at 2.3m, creating small roof spaces with the hard board lining that encloses it, although much of this has now collapsed (See Figure 2).

5.17 40 bat droppings and around 200 moth wings were found in Building 822 and 20 bat droppings and around 100 moth wings were found in Building 859 (See Figure 2). Scattering of moth wings were also found in Building 853 and 858. The bat droppings were 8-10mm long, 2.5-3.5mm in diameter and coarse in structure.

Building 886

5.18 Building 886 lies centrally within the site, surrounded by the four northern-most blocks (See Figure 1). It appears to be a former sports hall, with brick walls supporting a low-pitched, corrugated steel roof supported internally by a steel framework. The southern and northern walls rise 4m, before they are topped for the final 3m up to the eaves by windows. The eastern gable end is solid, but there are doors present on the western gable. The roof overhangs the gable ends by 1m, sealed by large wooden soffits, but with gaps around these where they meet the walls (See figure 2).

5.19 There is a small single storey extension at the south-east corner, but this is partially collapsed. The windows are largely broken and the doors were generally open.

5.20 Internally the walls are painted white, although vandalised through graffiti and attempts of arson. The floor to the main hall area is obscured by sand, suggesting this was used as a play area. There is no internal roof space, with the single skin roof open to the sand covered floor below. The windows mean that it has a very light interior (See Figure 2).

5.21 No evidence of bats was found in or around this building.

Building 867

5.22 Building 867 lies centrally within the site, immediately south of building 886 and between the four southern-most blocks. The building has brick walls and is formed from a number of interconnected sections of varied height. Each section of the building supports a pitched roof clad externally with corrugated concrete/asbestos sheets. This was once the canteen and kitchen building for the school.

5.23 Single storey extensions have been integrated into the building and support a flat roof lined externally with roofing felt with weatherboarding at the edges. A large brick built chimney is associated with one of the southern sections of the building. As with other buildings within the Application Site, the windows and doors have been damaged or left open from acts of vandalism.

5.24 The interior of the building is therefore relatively light and airy, with some of the northern walls missing. There are limited roof spaces created by suspended ceilings, but the interior walls are gloss painted and these roof spaces are open to the single-skin roof above.

5.25 No signs of bats were found in the majority of the building, but a small scattering of 10 bat droppings were found in the southern section near to the chimney. These were 2.5-3.5mm in diameter, 8-10mm long and coarse in texture.

Emergence Surveys

First Dusk Emergence Survey

5.26 The survey was conducted on the 24th June 2019, a dry warm night with a temperature of 23ºC initially, dropping to 20ºC by the end. There was a light wind, dropping to none by 21:30 and 50% cloud cover to start, clearing to 30% during the survey. Sunset was at 21:08.

5.27 The survey began at 20:58 and ended at 22:38. A Soprano Pipistrelle emerged from the corridor to the north of Building 866.

5.28 The first bat recorded was at 21:27, the Soprano Pipistrelle emerging from the corridor and flying east. Common Pipistrelles made up the majority of the commuting passes, with a number from passing Noctule, but virtually no feeding passes.

5.29 There were a total of 82 registrations by the four surveyors during the 90 minutes of the survey after sunset. This equates to 0.23 registrations per minute, per surveyor, indicating a low level of activity.

5.30 Common Pipistrelle made up 63.6% of the registrations, Noctule 25.6%, Soprano Pipistrelle 6.1%, Myotis 2.5%, and Long-eared 1.2%.

Second Dusk Emergence Survey

5.31 The survey was conducted on 25th June 2019, a dry, warm night with a temperature of 28ºC, dropping to 24ºC by the end. Cloud cover was 15% throughout with a light wind. Sunset was at 21:06.

5.32 The survey began at 20:51 and ended at 22:36. No bats were observed emerging from the building, but a Soprano Pipistrelle flew past a surveyor from the direction of Building 866.

5.33 The first bat recorded at 21:14 was a loud pass by a Soprano Pipistrelle on the northern side of Building 867 and 868. For the remainder of the survey Common Pipistrelle and Noctule commuted over or across the site.

5.34 There were a total of 75 registrations of bats recorded by the four surveyors during the 90 minutes of the survey after sunset. This equates to 0.21 registrations per minute per surveyor, indicating a low level of bat activity.

5.35 Common Pipistrelle made up 68.0% of registrations, Noctule 22.7%, Soprano Pipistrelle 5.3%, Long-eared 2.7% and Myotis 1.3%.

6. Discussion

6.1 There are no sites designated for bats within 5km of the site and only two records are held by the Thames Valley Environmental Records Centre within 2km of the site. There is a lack of recording in this general area, except for the roost monitoring within the 1km square, so there is likely to be a better species number and population of bats in the area than this indicates.

6.2 The site surveys carried out over the past 13 years indicate that there are resident Common and Soprano Pipistrelle, Brown Long-eared, Whiskered, Natterer's and Noctule bats in the area, with three maternity roosts identified in the wider site to the east and 20 plus summer/transitory roosts there.

6.3 The structure of the surrounding habitat on site offers moderate commuting, foraging and roosting potential, with amenity grassland broken up by tarmac hard-standing with tall hanger style buildings around the flying field to the north and large arable fields to the south and west. To the east there are open playing fields and new housing developments. The village of Upper Heyford lies 400m to the west, the land then drops into the Cherwell Valley, with the river and Oxford Canal 800m away.

6.4 Most of the buildings have negligible potential for roosting bats due to their structure and the state they are in, with many broken windows and doors creating relatively light interiors and little to no roosting features.

6.5 There were a number of moth and butterfly wings found at a few places in the complex, but most of these were not associated with any bat droppings, so could have been produced by spiders or Swallows. However, there were scattered droppings in Building 867 and small concentrations in Buildings 822 and 859, associated with larger numbers of moth remains. The droppings were all 2.5-3.5mm in diameter, 8-10mm long and coarse in texture, being indicative of Brown Long-eared bats.

6.6 The scattered droppings are indicative of a bat flying within the open buildings investigating it, but not of roosting. The larger numbers of moth wings associated with small concentrations of Long-eared droppings indicate a night-time feeding perch is present. With no roosting features associated with these area (sealed gloss painted wall with no cavities) then it is almost certain they are only night-time feeding perches.

6.7 Putting this in context, the 2013 surveys of the northern (now demolished) buildings found no signs of bats and recorded no emergence or return to roost. However, building 821 had a single bat dropping in it. The 2015 surveys found bat droppings in Buildings 821, 822 and 859, confirmed as Brown Long-eared bat droppings in 822 and 859, but Natterer's in 821. Emergence surveys that year confirmed no emergence or return to roost, confirming their occasional use only. A re-assessment in 2016 found no new signs of bats.

6.8 The 2019 update found no evidence of bats in Building 821, but continued use with a few recent droppings and many moth wings in Buildings 822 and 859, so the Brown Long-eared feeding perches were still present.

6.9 The 2019 emergence surveys confirmed the scattering of ten Long-eared bat droppings were from a bat exploring the building rather than roosting in it. However, the first survey identified a Soprano Pipistrelle emerging from the corridor north of Building 866, with an early emergence of a Soprano Pipistrelle from the same area confirming the presence of a day roost of a single Soprano Pipistrelle bat during the second survey.

6.10 In the absence of development, it is likely that the feeding perches will continue to be used on an infrequent basis, eventually becoming abandoned as the buildings fall further into disrepair. Therefore with simple mitigation measures the status of bats in the area would not just be maintained, but improved.

6.11 The proposed works will legally need to be carried out under a licence, which in this case can be a site registration under a Bat Mitigation Class Licence, as there are a low number of minor roosts of commonly occurring bat species. The mitigation and working method statement is shown in the recommendations section.

6.12 The bat boxes put in place for the construction period are to be retained afterwards to mitigate for the roosts potentially lost, with integrated bat boxes proposed for each of the blocks of new buildings in line with the developments to the east of this site.

6.13 A working method statement and mitigation has been put forward in the next section to cover the site registration under a Bat Mitigation Class Licence that will be required to carry the proposals out legally.

6.14 In addition, as bats are present the 'three tests' required for a European Protected Licence must be satisfied. These are;

- That the work is for imperative reasons of overriding public interest
- There is no satisfactory alternative
- There is no detrimental effect to the population of bats at a favourable conservation status within their natural range.

6.15 In this case the first is covered by the planning consent that has already been granted, as this is a key development area for the district and will help to provide an increase to the housing stock for this area to meet some of the aims of the NPPF and the local plan.

6.16 For the second test, the site covered by derelict buildings and is classed as a brown-field site. Rural planning policy allows for replacement of existing buildings, but would not allow new buildings to be built in the open countryside or green belt. In addition the buildings have fallen into disrepair and could not be used in their current

condition, and will collapse soon anyway. Therefore there is no real alternative to development of the site.

6.17 The final test is to maintain the conservation status of bats in the area. As bats are roosting in the building, but the roosts are minor and occasionally used, three bat boxes would mitigate their loss. In line with the other developments on the site to the east, it is proposed to incorporate integrated bat boxes into each block of buildings to enhance the conservation status of bats in the area.

6.18 In addition, the working method statement and ecological supervision will prevent detrimental effects occurring to individuals or the local population to maintain the conservation status of bats in the local area.

7. Further Surveys Recommendations and Enhancements

Further Surveys

7.1 No further surveys are deemed necessary, as twelve surveys have been carried out over the last six years.

7.2 Monitoring will not be required under the Bat Mitigation Class Licence site registration, as the roosts are minor ones of commonly occurring species.

Recommendations

7.3 The work will be conducted under a mitigation licence. The roost has been confirmed as a minor day roost for a single Soprano Pipistrelle bat and two night-time feeding perches of Brown Long-eared bats, which are both commonly occurring bat species. This can therefore be achieved by registering the site under a Bat Mitigation Class Licence, using the method statement below.

Bat Working Method Statement

7.4 A tool-box talk will be carried out by a qualified ecologist to inform the contractors of the method statement, the protection afforded bats, how to recognise bats and what course of action they will need to follow if a bat is found during the construction.

7.5 One Schwegler 1FF and two Schwegler 2FN bat boxes will be erected in mature trees on the perimeter of the site before demolition work begins, as temporary roost site during the works.

7.6 Before works commence the Ecologist licenced to disturb bats will inspect the internal roof spaces as a final check for roosting bats, removing any found by hand and placing them in the bat box.

7.7 A licenced bat ecologist will oversee the initial removal of roofs and bat features in those areas where signs of bats have been found in the past (the toilet blocks), such as ridge tiles and soffits. These features will be removed carefully by hand after inspection by the licenced bat ecologist.

7.8 If, in the unlikely event that a bat is encountered, it will be taken by hand by the ecologist, who is very experienced in handling bats. The bat will be stored in a cotton bag to keep it calm and secure and moved into one of the newly erected bat boxes.

Mitigation

7.9 The bat boxes erected in the trees as a temporary measure will be retained as site mitigation for the loss of the Common Pipistrelle day roost and the Brown Long-eared feeding perches.

7.10 As with the development to the east, each housing block will have an integrated bat box fitted to provide a wide variety of opportunities for bats to roost in to enhance the conservation status of bats in the area.

7.11 Lighting of the site will remain minimal and consist of down-lighters if required. No direct lighting of the bat boxes will be allowed and there will be no lighting of the trees at the boundary of the site, which have been shown to be important to foraging Noctule bats.

Enhancements

7.12 Any planting should include native species and especially night-flowering species to attract insects for bats to feed on, such as Honey-suckle, Evening Primrose and Night-scented Catchfly.

8. Figures

Figure 1: Phase 9 Survey Plan

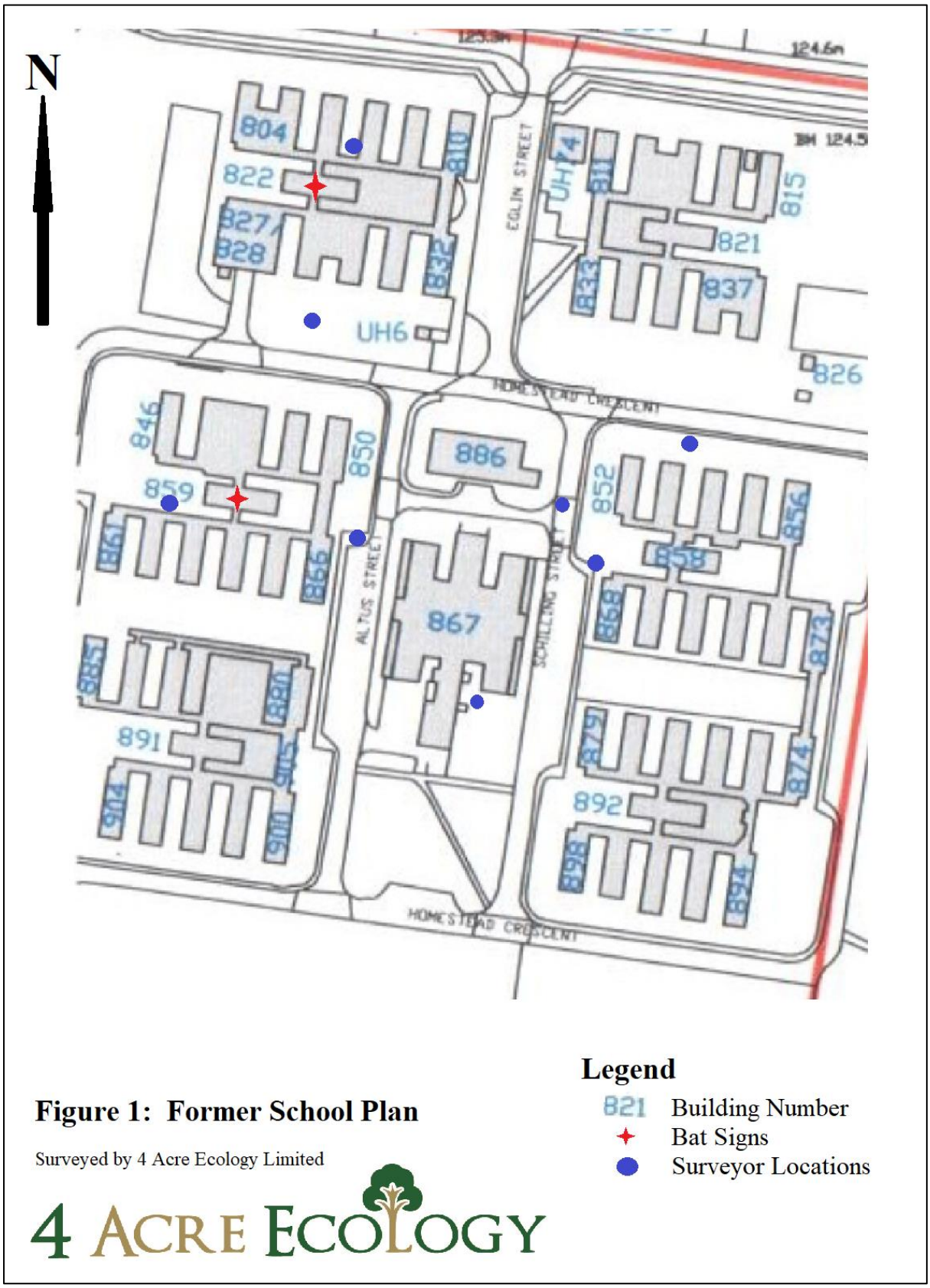


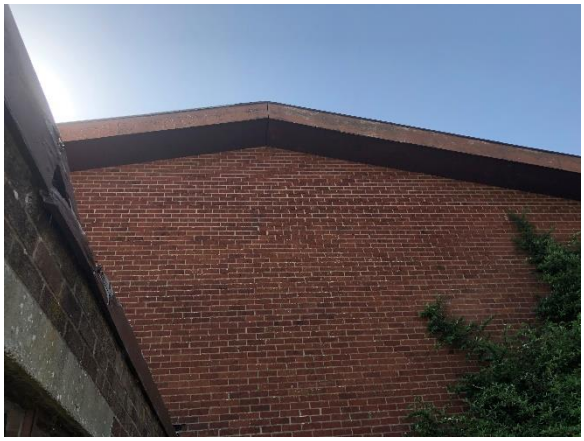
Figure 2: Images

1. Interior of class rooms

2. Small area of remaining ceiling

3. Droppings and moth below feeding perch

4. Feeding perch position with no roosting features



5. Gable end of sports hall (Building 886)

6. Interior of Building 886

7. Exterior of class rooms

8. Linking corridor

9. Interior of building in 2013

10. Interior of building in 2019

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Appendix 1: Information on British Bats

There are 18 species of bat in the UK (17 of which are known to be breeding here). They range from the tiny **Pipistrelle**, weighing in at around 5g (less than a £1 coin), to our biggest bat, the **Noctule**, which is still smaller than the palm of your hand.

All British bats eat insects exclusively, a **Pipistrelle** bat eating as many as 3,000 midges in one night, while **Long-eared** bats eat moths and **Noctule** or **Greater Horseshoes** also eat larger beetles.

The **Alcothoe** bat is the latest addition to the UK bat family, only being confirmed as a resident species in 2010 due to its similarity to the **Whiskered** and **Brandt's** bat species.

The **Daubenton's** bat is known as the 'water bat', as they fish insects from the water's surface with their large feet or tail. In England and Wales the majority of known summer colonies are in humid, more or less underground sites near water. These may be tunnels or bridges over canals and rivers, or in caves, mines and cellars. They are only occasionally found in buildings, usually old stone structures such as moated castles and waterworks.

Bats do not build nests, but use small spaces to shelter and rest in during the day, or hibernate in during winter. These places are known as roosts. There are a variety of different types of roost, from winter hibernation roosts, spring and Autumn transitory roosts to summer maternity roosts. However, not all bats will roost within buildings, with the following being those most likely to:

Pipistrelle bats (both Common and Soprano species) are the most common bats in this country. They prefer to roost in very confined spaces around the outside of buildings, typically behind hanging tiles, soffits and barge boards, under roofing felt or in cavity walls. They do not usually enter roof spaces, although well-established large colonies in older buildings may do so.

Brown Long-eared bats are the third most commonly occurring species, after the two **Pipistrelle** species. They roost singly or in small groups among the roof timbers at the apex, particularly around ridge ends and chimneys, and in crevices in ridge tiles. These medium sized bats spend more time inside the roof space than many other bats, and are generally very quiet inside the roost, not leaving until after dark.

The **Serotine** bat, one of the largest bat species in the UK, is almost exclusively found roosting in houses across southern England and Wales. Rarer than **Pipistrelles** and **Brown Long-eared** bats, **Serotines** usually roost in crevices around chimneys and in cavity walls. Their favoured prey is large beetles, which they find over farmland and grassland.

Horseshoe bats, probably the most unusual looking of the UK's bats, are sometimes found roosting in houses in south-western England and Wales. **Greater** and **Lesser Horseshoe** bats hang free in the roost from their feet.

(Find further details from the Bat Conservation Trust Website at: www.bats.org.uk)