



SOUTHWARK PLANNING

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**123 GROVE PARK, SOUTHWARK
BAT ACTIVITY SURVEY**

Report for

Citrus Health Care

May 2011

SOUTHWARK COUNCIL PLANNING	
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Title: 123 Grove Park, Southwark
Bat Activity Survey

Project No: AEL 408

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Signed on behalf of Applied Ecology Ltd:



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Director

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1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1 Applied Ecology Ltd (AEL) was appointed by Citrus Health Care to complete a bat activity survey of a large residential house located at 123 Grove Park, Camberwell, Southwark.
- 1.1.2 The survey was undertaken to inform a development proposal to re-develop the site for residential accommodation following the discovery of two bat droppings consistent in size and shape with those produced by a pipistrelle bat on the cover of a water tank in the loft of the property in March 2011 – (see **Appendix 1** for survey report). The March survey was completed by AEL to update two previous surveys of the site undertaken in 2006 and 2007¹ which recorded no evidence of roosting bats in the building only features that had the potential to support roosting bats such as missing or lifted roof and hanging tiles about the exterior of the property.
- 1.1.3 The objective of the bat activity survey that is the subject of this report is to confirm the nature and status of bat roosting in the building reflecting that bats and their roosts are protected by law, and to inform the scope of appropriate mitigation and compensation measures to enable the re-development of the site to proceed lawfully as necessary

1.2 BAT LEGISLATION AND ECOLOGY

Legislation

- 1.2.1 All UK bat species are protected by two separate legislative frameworks: the Conservation (Natural Habitats, &c.) Regulations 1997 and the Wildlife and Countryside Act 1981, as amended,
- 1.2.2 Under Section 39 (part 1) of the amended Regulations a person commits an offence if he:

“(b) deliberately disturbs wild animals of any such species [i.e. a European Protected Species] in such a way as to be likely significantly to affect:

¹ Applied Ecology Ltd (July 2006) *Ecological Appraisal of 123 Grove Park, Southwark*. Report for Colliers CRE issued 12 July 2006

Applied Ecology Ltd (August 2007) *123 Grove Park, Southwark – Bat Report*. Report for the Citrus Group



- I. *the ability of any significant group of animals of that species to survive, breed, or rear or nurture their young; or*
- II. *the local distribution or abundance of that species."*

1.2.3 Although the term a 'significant group' cannot easily be defined, and may vary between species, the construction of this limb of the offence clearly excludes individual animals from its scope.

1.2.4 A person would also commit an offence under Section 39 if he:

"(d) damages or destroys a breeding site or resting place of such an animal [European Protected Species]."

1.2.5 Destruction or damage to a bat roost, whether a bat is present or not, would constitute an offence as bats return to the same places year after year, and there are no qualifications, exemptions or defences for this apart from a licence (see below). Any degree of damage could qualify as an offence and there is no threshold of 'significant' as for the deliberate disturbance offence. Section 39 (part 11) goes on to state that a person guilty of an offence *"is liable on summary conviction to imprisonment for a term not exceeding six months or a fine not exceeding level 5 on the standard scale, or to both."*

Licences

1.2.6 In England, such offences can be licensed by Natural England for a number of purposes set out in regulation 44. These include 'imperative reasons of overriding public interest', which could cover the deliberate significant disturbance or destruction of a bat roost during development operations. Licences can only be issued where there is no satisfactory alternative and where the action authorised will not adversely affect the conservation status of the species involved. Section 9 of The Wildlife & Countryside Act, 1981 (as amended) make a person guilty of an offence if intentionally or recklessly:

- (a) *he damages or destroys any structure or place which any wild animal on Schedule 5 [all bat species] uses for shelter or protection;*
- (b) *he disturbs any such animal while it is occupying a structure or place which it uses for shelter or protection; or*
- (c) *he obstructs access to any structure or place which any such animal uses for shelter or protection.*



1.2.7 The existence of two separate disturbance offences in two separate legislative frameworks presents a challenge of interpretation and application. Neither can be dismissed as they both operate in rather different ways. The offence in the Regulations does not apply to non-significant disturbance and seems unlikely to apply to individual bats, but is licensable for development purposes, particularly with respect to damage or destruction of a bats breeding site or resting place. The offence in the WCA applies to individual animals, but only in places of shelter or protection, is not licensable for development, but is subject to two important defences. These are:

- that the action took place within a dwelling-house; or
- that the act was the incidental result of a lawful operation and could not reasonably have been avoided.

1.2.8 For bats, these defences cannot be relied upon, except in the living-area of a dwelling-house, unless Natural England have been notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the method to be used.

Ecology

1.2.9 The distribution and conservation status of the 17 species known to occur in mainland UK are shown in Table 1.

Table 1: Distribution and conservation status of the 17 bat species known to occur in mainland UK (Status from Hutson² and the Bat Conservation Trust³)

COMMON NAME	SPECIES NAME	DISTRIBUTION/STATUS	IUCN STATUS
Natterer's Bat	<i>Myotis nattereri</i>	Widespread/Frequent	Vulnerable
Daubenton's Bat	<i>M. daubentonii</i>	Widespread/Common	Not threatened
Whiskered Bat	<i>M. mystacinus</i>	Widespread/Scarce	Vulnerable
Brandt's Bat	<i>M. brandti</i>	Widespread/Scarce	Vulnerable
Bechstein's Bat	<i>M. bechsteinii</i>	Restricted/Rare	Vulnerable
Greater Mouse-eared Bat	<i>M. myotis</i>	Classified as extinct within U.K.	Vulnerable
Soprano Pipistrelle Bat	<i>Pipistrellus pygmaeus</i>	Widespread/Common	Not threatened
Common Pipistrelle Bat	<i>P. pipistrellus</i>	Widespread/Common	Not threatened

² Hutson, A.M. (1993) Action Plan for the Conservation of bats in the United Kingdom,

³ The Bat Conservation Trust, accessed at www.bat.org.uk.



Nathusius' Pipistrelle Bat	<i>P. nathusii</i>	Unknown	Not threatened
Brown Long-eared Bat	<i>Plecotus auritus</i>	Widespread/Common	Not threatened
Leisler's Bat	<i>Nyctalus leisleri</i>	Widespread/Scarce	Vulnerable
Noctule Bat	<i>N. noctula</i>	Widespread/Common	Not threatened
Serotine Bat	<i>Eptesicus serotinus</i>	Restricted/ Frequent	Vulnerable
Barbastelle Bat	<i>Barbastella barbastellus</i>	Restricted/ Rare	Endangered
Greater Horseshoe Bat	<i>Rhinolophus ferrumequinum</i>	Restricted/ Rare	Vulnerable
Lesser Horseshoe Bat	<i>R. hipposideros</i>	Restricted/ Rare	Vulnerable
Grey Long-eared Bat	<i>Plecotus austriacus</i>	Restricted/ Rare	Not threatened

1.2.10 The Bat Conservation Trust (BCT) website lists six of the 17 species that have been identified by the UK Government as needing special conservation help due to their rarity or significant decline. All six species have Species Action Plans (SAPs). These plans have the objective of increasing their existing population levels through protecting and enhancing the quality of their roosting and foraging habitats. Plans exist for the following species:

- Greater Horseshoe Bat (*Rhinolophus ferrumequinum*);
- Lesser Horseshoe Bat (*R. hipposideros*);
- Bechstein's Bat (*Myotis bechsteinii*);
- Barbastelle Bat (*Barbastella barbastellus*);
- Soprano Pipistrelle Bat (*Pipistrellus pygmaeus*);
- Brown Long-eared Bat (*Plecotus auritus*); and
- Noctule (*Nyctalus noctula*).

1.2.11 The majority of the bats found in mainland UK all belong to the family Vespertilionidae. Although each species may have its own specific preferences for the structures it uses for roosting, and different dietary and foraging habitat needs, all of these bats show a common life history and annual cycle of behaviour. These include the following characteristics and/or events.

1.2.12 All bats use torpor to save energy whenever food supplies are scarce. Torpid bats use less than 1% of the energy used by active bats, even when resting. Winter torpor, or hibernation, involves extended torpor for many days. It generally



occurs between November and April. Winter roosts must provide cool, damp conditions. Such conditions occur in underground structures such as caves, disused mines and tunnels.

- 1.2.13 When fully active, bats must have access to large amounts of insect food supplies. Individuals may need to eat over 50% of their body weight per day. This particularly applies to females nursing young. Summer roosts must provide bats with warm conditions to reduce the costs of regulating their body temperature. Normally bats congregate in colonies in summer to share the costs of keeping warm. Maternity colonies are the largest. They may use holes and crevices in trees or building attics as summer roosts, especially those warmed by the sun.
- 1.2.14 Some bat summer roosts contain only a few, or even a single bat. Mature males often occupy such roosts as mating sites.
- 1.2.15 Bats normally use the same summer and winter roosts, especially maternity roosts and hibernation sites, on an annual cycle over long time periods. Species that use trees for roosting are most likely to use a number of different summer roosts. Some bat populations have been shown to occupy 19 different roosts in a single summer.
- 1.2.16 Bat reproduction is unique among mammals. Bats usually mate in the autumn and early winter, but sometimes also in spring. Males may advertise for females from their roosts using social calls (Pipistrelles, Noctules, Leisler's), or visit underground swarming sites and wait for females to arrive (*Myotis* bats, Brown long-eared, Serotines). Sperm is stored until the spring by both sexes.
- 1.2.17 Fertilization occurs in spring, and pregnancy proceeds up to June, when single births occur. Poor weather (cold, or wet and windy) prevents bats from feeding at any time of the summer. The use of torpor to survive poor weather may prolong a female's pregnancy and/or reduce her milk supplies during lactation. Hence climatic conditions affect reproductive performance survival and ultimately population levels over time.
- 1.2.18 Numbers at maternity colonies peak between June and mid August, when climate and insect availability are normally most favourable. The single young are large (about 20% or more of the mother's body weight) at birth and grow rapidly. They are fully grown and weaned by about 45 days after birth. By late August large maternity colonies have dispersed; the bats moving to alternative summer roosts. In September and October, bats mate and store fat for winter hibernation.



2 SURVEY APPROACH

2.1 BACKGROUND

2.1.1 Guidance on the level of survey effort necessary to verify use of a building by roosting bats in relation to development has been produced by the Bat Conservation Trust (BCT) in 2007⁴, and is endorsed by Natural England as the methodological approach that should be followed in relation to assessing development impacts on bats. BCT 2007 suggests that up to four bat activity surveys of a building may need to be conducted in order to have confidence in a negative survey result, and at least two of these surveys should be conducted between mid-May and August to correspond with the bat maternity (breeding) period.

2.1.2 The current survey was based on the completion of a two surveys - an emergence survey on 4 May 2011 and a following return to roost survey on 5 May 2011. Both surveys were conducted within the recognised summer bat activity and maternity period.

2.2 BAT ACTIVITY SURVEY

Emergence & Return Survey - 4-5 May 2011

2.2.1 A bat activity survey comprising a dusk emergence survey to watch for bats emerging from the property at dusk, as well as recording general levels of bat activity around the site, was undertaken on 4 May 2011. The survey was completed by Miss Crystal Acquaviva - an experienced AEL bat worker who holds a Natural England licence that legally enables her to enter and disturb bat roosts and handle bats for scientific purposes in all counties of England (Licence no. 20110210) with assistance from a second AEL ecologist Dr Martin Brammah (AEL).

2.2.2 A visual inspection of the accessible external walls and footings around the building and on surfaces inside the building's roof space was completed to search for bat droppings or any other field evidence that might indicate the location of roosting bats in advance of the emergence survey commencing on 4 May. No additional bat dropping evidence to that recorded previously in the building was found.

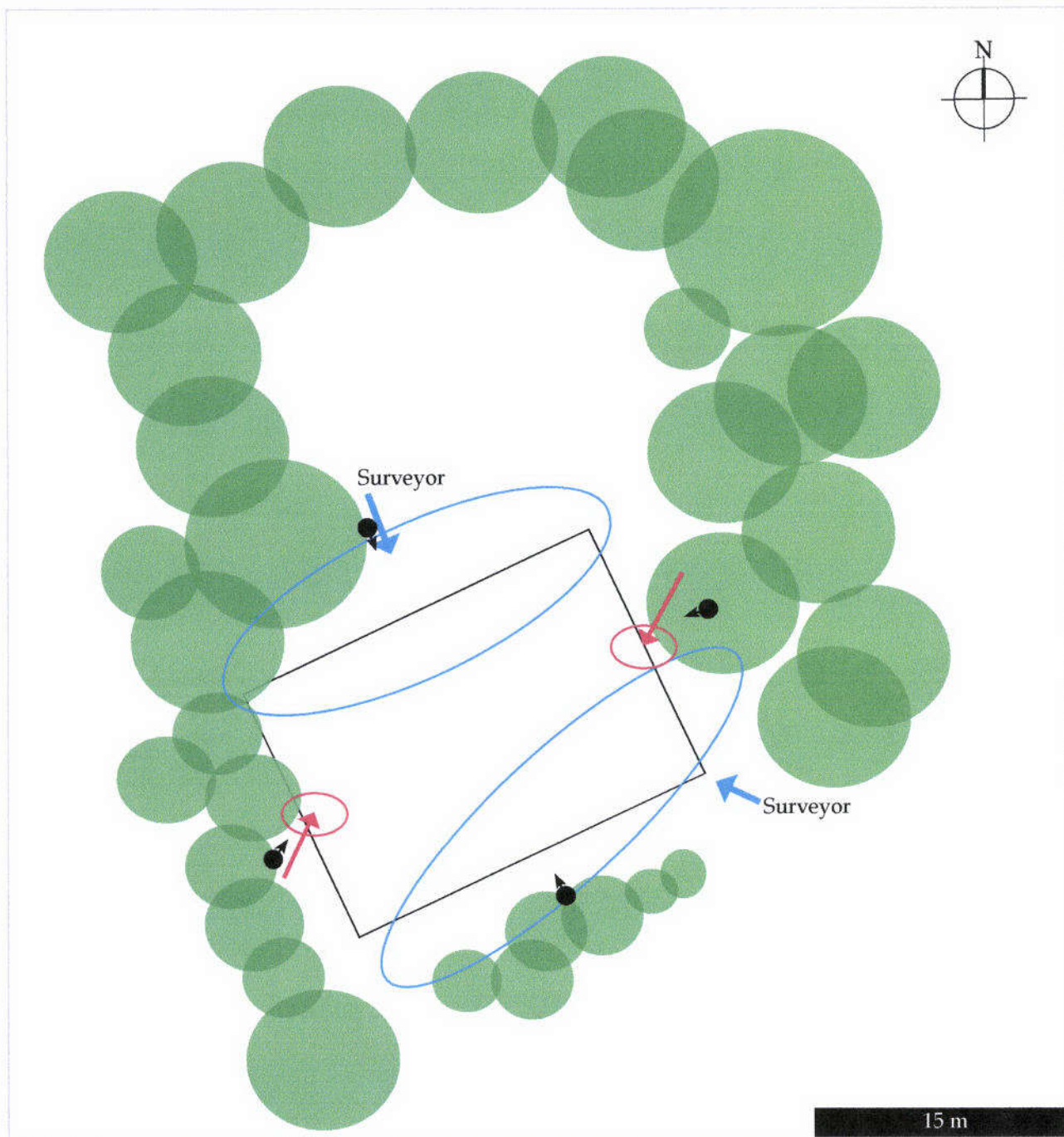
⁴ Bat Conservation Trust (2007) *Bat Surveys - Good Practice Guidelines*. Bat Conservation Trust, London



- 2.2.3 Sun set on the evening of the survey was at 20.28, and the emergence survey commenced 15 minutes before this time and ended at approximately 90 minutes after sun set. Weather conditions were suitable for bats to be active during the survey with an air temperature at the start of 13.4°C, a gentle breeze and 100% cloud cover. Light drizzle fell at the start of the survey but stopped after a few minutes and did not restrict bat activity. All surveying equipment was removed from site after the completion of the emergence survey as the site was not secure.
- 2.2.4 Both surveyors returned to site in darkness the following morning and repositioned the survey equipment in the locations shown by **Figure 1**. The return to roost survey was completed from 04.00 until 05.30 - sun rise was at 05.25. During this time, both surveyors slowly patrolled their respective halves of the building to look for bats returning to roost in the building.
- 2.2.5 Four time-synchronised automated Anabat electronic bat detectors (SD2 models) were employed during the dusk and dawn survey. Each was raised 1.5m from the ground on a tripod with their microphones pointing skyward in the positions shown by **Figure 1**. Both surveyors were equipped with a Pettersson 230 bat detector.
- 2.2.6 Two tripod mounted digital video cameras with infra-red night shoot facility were also used during the survey (dusk and dawn) to film bats emerging from two potential bat access/egress points the western and eastern end of the building missing hanging and roof tiles respectively (see **Figure 1**). An infra-red lamp was used to illuminate both areas being filmed. The video recorders were set to run at five minutes before the start of each survey and were left to record for 84 minutes (the length of the tape) on each occasion
- 2.2.7 In summary, all potential bat egress points about the exterior of the building were observed during the survey.

2.3 SURVEY LIMITATIONS

- 2.3.1 No significant survey constraints were experienced at any point during the activity survey.



Key



Infra-red lamp and video camera position and field of view (ellipse)



Anabat electronic bat detector on tripod (2m above ground) and direction of microphone (arrow)



Surveyor field of view during the roost emergence survey. Surveyors patrolled around perimeter of the building during the dawn return to roost survey

123 Grove Park, Southwark

Figure 1: Bat activity survey locations 4-5th May 2011



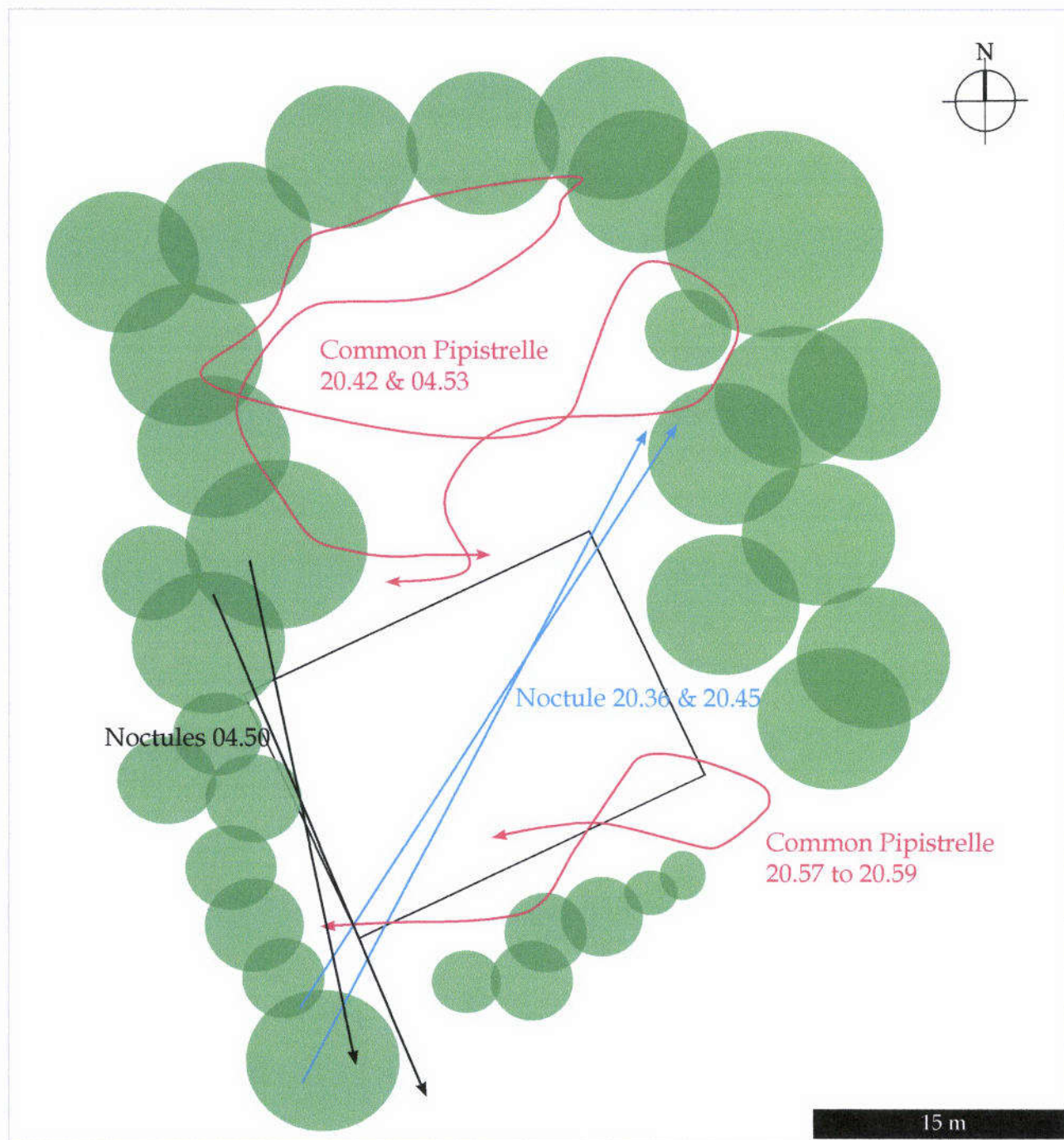


3 SURVEY FINDINGS

3.1 BAT ACTIVITY SURVEY

Summary of Findings

- 3.1.1 No bats were seen or recorded flying out of or into any point of the building during the survey, and no additional bat dropping evidence was present on or within the property since the last survey in March. During the return to roost survey no bat activity was recorded that indicated a bat or bats investigating potential roost locations about the exterior of the building.
- 3.1.2 The results of the bat activity survey are summarised on **Figure 2**. The first bat calls detected during were those of a commuting *Nyctalus* bat (probably a noctule) that flew high across the site in a north easterly direction from the south west at 20.36 (eight minutes after sun set). A second *Nyctalus* bat commuted across the site in the same direction at 20.45.
- 3.1.3 The next bat seen and recorded was a common pipistrelle *Pipistrellus pipistrellus* from 20.42 until 20.59 which was foraging around both sides of the property. The bat was first seen and recorded at 14 minutes after sun set, and had therefore been roosting relatively close by. Thereafter a single foraging soprano pipistrelle *Pipistrellus pygmaeus* was recorded at 21.13 until 21.19 but the bat was not seen.
- 3.1.4 During the return to roost survey the next morning, a single common pipistrelle was recorded foraging around the back garden area at various times from 04.07 until the last sighting at 04.53 when it flew off site in a northerly direction. Two *Nyctalus* bats were also observed commuting high above the site at 04.50 in a southerly direction.
- 3.1.5 No other bat activity was recorded during the survey.



123 Grove Park, Southwark

Figure 2: Bat activity survey results 4-5th May 2011





4 CONCLUSIONS AND RECOMMENDATIONS

4.1 SUMMARY OF RESULTS

4.1.1 The results of the survey work completed from March to May 2011 suggests strongly that 123 Grove Park does not support a bat roost, and that the two bat droppings recorded in the roof space were probably the result of a single pipistrelle bat that had flown into the building and investigated the interior of the loft space - probably via a missing window pane in this location.

4.1.2 On the basis of the survey findings and, reflecting the general lack of field evidence to suggest the presence of a significant bat roost in the property, further bat survey work is not considered necessary or reasonable to verify bat absence provided the following recommendations are implemented moving forward:

- three bat bricks⁵ or tubes⁶ to be built into or attached onto the external fabric of the new building at roof eave level in locations away from external security or other lighting to be agreed with an experienced bat worker;
- bat boxes to be monitored and maintained post construction by an experienced bat worker for two years;
- all mature trees in the garden to be inspected and checked for the presence of roosting bats prior to their removal; and
- any external lighting is designed to minimise adverse impacts on bats with any lighting of paths being low level and that minimises light spill and/or is operated only by external motion sensors on short timers.

⁵ See - <http://www.ibstock.com/sustainability-ecozone.asp>

⁶ See - http://www.alanaecology.com/acatalog/No_750_6_Bat_Box.html



APPENDIX 1



Barry Kitcherside
Chart Plan (2004) Ltd
Mansard Cottage
65 Stoneleigh Road
Limpsfield Chart
Oxted
Surrey RH8 0TP

31 March 2011

Dear Barry,

ECOLOGY SURVEY REPORT - 123 GROVE PARK, SOUTHWARK

I am writing to set out the findings of my ecology survey of the above site completed on 25 March 2011. The survey was completed to update two previous surveys of the site undertaken by my company in 2006 and 2007¹. I am an ecologist with over 20 years professional experience, a Chartered Environmentalist and licenced bat worker, I am also a voluntary Bat Warden for Natural England (Three Counties Team).

I completed an external and internal inspection of the house to search for signs of roosting bats, and identify features that bats could use for roosting. I also completed a walkover survey of the grounds and garden to search for evidence of legally protected animal species, species with elevated levels of biodiversity interest in the context of the Southwark Biodiversity Action Plan (BAP) and invasive plants that might be of planning concern with respect to developing the site.

In general the site was in a very similar condition to that reported previously, with the house (see **Photos 1-2**) possessing a number of built features about its exterior that could support crevice roosting bat species including gaps behind soffits (**Photo 3**) and lifting roof tiles (**Photo 4**). No physical evidence of bats was seen on any external surface, and the presence of bats using these features remains, as reported previously, a theoretical possibility only. It is of note that the current survey was completed outside the start of the main bat active season, and therefore evidence of bats (e.g. their droppings) would not necessarily be expected to be visible on exposed areas about the buildings exterior.

¹ Applied Ecology Ltd (July 2006) *Ecological Appraisal of 123 Grove Park, Southwark*. Report for Colliers CRE issued 12 July 2006
Applied Ecology Ltd (August 2007) *123 Grove Park, Southwark - Bat Report*. Report for the Citrus Group



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6

Two old bat droppings of a size and shape consistent with those produced by a *Pipistrelle* bat were present on the lid of a water tank in the loft (see **Photo 2**), but no other evidence of bats was present. This along with the very light conditions within the roof space as a result of gable end windows (some with missing panes of glass), indicates that a large or important bat roost of species that require large roof voids to fly within (e.g. Brown Long-eared bat) is not present, and that any roosting activity is likely to be confined only to the use of crevice type features by *Pipistrelle* bats about the exterior of the property. The two droppings within the loft are considered most likely to have been produced by a single bat making a one off exploratory visit of roof space entering via the window frame with the missing window pane.

The two sycamore trees in the wooded area of the garden (**Photos 5-6**), reported previously to possess woodpecker holes that could be used by tree roosting bats, were still standing, and it appeared likely that one or both were in use by greater spotted woodpecker at the time of the survey. No obvious evidence of roosting bats was seen in association with either tree.

The previously reported invasive alien plant Japanese Knotweed was still present in the garden albeit the stand had increased in size since 2006. Similarly, as reported before, a number of fallen trees and log piles were also present in the wooded area of the garden, and are likely to provide dead wood habitat for Stag Beetle (a local BAP and legally protected species). Stag Beetle pupae and larvae require below ground dead wood habitat to persist and it is very difficult to prove their presence/absence from a site as it would involve destroying the habitat on which they depend to search for them. The presence of adult Stag Beetles in the garden does not necessarily prove breeding presence in the garden unless the beetle is seen to emerge from dead wood within the site. In light of this, and reflecting unverified reports of Stag Beetle presence in the local area, I would recommend a precautionary approach is adopted with respect to Stag Beetle, and the species is regarded as being present within the wooded part of the site.

Recommendations

Bats

A bat activity survey in line with current best practice survey guidance should be completed to verify the presence/absence of roosting bats within the house prior to its demolition. If bats are found to be present, it is likely they will be crevice roosting species (almost certainly *Pipistrelle* bats) roosting in external crevice features. It is of note that such features could be easily replicated in any new building, and it is recommended that bat roost features are incorporated into the exterior of the new building as compensation for the loss of crevice roosting opportunity.

1. Ten enclosed bat bricks (Ibstock Type B or similar) to be incorporated in suitable locations within the exterior of the new building (locations to be agreed by a suitably experienced bat worker).

2. If the presence of roosting bats (i.e. more than one bat) is verified, then the building to be demolished under the auspices of a Natural England European Protected Species (EPS) development licence as considered necessary.
3. Standing dead trees with bat roost features to be felled at a time when they are least likely to be in use by nesting birds and breeding tree roosting bats in the autumn months (September to early November) immediately after a detailed check has been carried out that birds and bats are absent from them. Trees to be soft-felled if bat absence cannot be verified e.g. if trees prove unsafe to climb. Trees to be felled under the auspices of an EPS licence, as necessary, if the presence of tree roosting bats is confirmed.
4. As compensation for the loss of bat roost potential trees, six woodcrete bat boxes to be mounted in suitable locations on retained trees or other suitable structures within the grounds of the site in locations to be agreed by a suitably experienced bat worker.

Stag Beetle

A boundary of the garden (minimum width 3m) should be set aside as a Stag Beetle protection zone in perpetuity. In advance of site clearance and construction the following measures should be completed:

5. All dead wood and brashings to be removed by hand and used to construct two Stag Beetle loggeries (2.5m circumference) within the protection zone. Loggeries to be supplemented with large hard wood logs (not pine) as necessary. Left over dead wood to be left as habitat piles on the ground surface within the protection zone.
6. All ground immediately below and within 1m of the edge of existing dead wood log/brash pile locations to be hand dug under ecological supervision to search for Stag Beetle larvae or pupal cells. All larvae found to be transferred to one of three Stag Beetle breeding boxes to be constructed in advance of site clearance within the Stag Beetle protection zone.
7. A Stag Beetle information board to be erected to describe Stag Beetle ecology, conservation and the function of the mitigation measures provided within the protection zone.

Japanese Knotweed

8. A Japanese Knotweed elimination strategy be developed and implemented in advance of site clearance to avoid the spread of knotweed as a result of site clearance and construction operations.

In summary, I believe that provided the recommendations numbered 1-8 listed above are made a condition of any planning permission that is issued, there should be no significant adverse impact on the ecological interests of the site and the biodiversity value of the site will be maintained in the long term.

Please do not hesitate to contact me should you have any questions or points of clarification.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'Duncan', with a long, sweeping horizontal line extending to the right.

Dr Duncan Painter MIEEM CEnv
On behalf of Applied Ecology Ltd.