Roche Garden,
Welwyn Garden City

Preliminary Bat Survey

August 2007

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Keystone Environmental
Practical Ecological Solutions

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1.0 INTRODUCTION

1.1 Background

1.1.1 Keystone Environmental Ltd was instructed by George Wimpey North Thames to undertake a Preliminary Bat Survey of office and commercial buildings across a site proposed for development at Roche Gardens, south of the town centre of Welwyn Garden City, Hertfordshire. Trees across the site were also assessed for features with the potential to support roosting bats. As defined in Planning Policy Statement 9, protected species are a material consideration in the planning process.

1.1.2 Residential development and amenity grassland are to be the proposed development on site.

1.1.3 The need for a Bat Survey was identified during an Extended Phase 1 Habitat Survey conducted by Keystone Environmental in August 2007 (*Keystone Environmental, 2007)*.

1.1.4 The aim of the survey was to undertake visual internal and external appraisals of the buildings to ascertain the following:

- presence/absence of bat roosts
- status of roosts if present
- whether additional surveys are required
- whether a Natural England licence is required to ensure legal compliance
- which type of mitigation measures would need to be employed

1.2 Site Characteristics

1.2.1 The site is located in an industrial urban area in Welwyn Garden City, and comprises sixteen buildings, ranging from one to six storeys high, previously associated with a pharmaceutical development company. An extensive basement network extends beneath most of the site and is accessible from the buildings above. The area surrounding the buildings is largely hard standing, including roads and car parking, with a small area of metal containers. A small section of amenity grassland including ornamental shrubs, hedges and semi-mature trees exists at the north-eastern edge of the site. It is accessible via a security checkpoint and gate at the east of the site on Broadwater Road. Previously the site would have been well-lit with street lighting, however only a few of these are now still working at first storey height; above this it is unlit around the buildings.

1.2.2 To the north, east and west, commercial and light industrial units surround the site. Immediately to the north derelict industrial buildings, with good potential for bat species, border the site. The eastern boundary of the site is a main road into the town. 1970's residential housing including garages, gardens and associated features borders the site to the south. The Kings Lynn to London railway line lies 130m to the west of the site.

1.3 Legislation

1.3.1 All species of bat receive protection under The Wildlife and Countryside Act 1981, as amended by the EC Habitats and Species Directive 1992. All bats are also included in Schedule 2 of The Conservation Regulations 1994, which defines 'European protected species of animals'. Taken together this legislation (as amended by the CRoW Act 2000) makes it illegal to:

- intentionally or recklessly kill, injure or take a wild bat
- to be in possession of, or control, any live or dead wild bat or part of, or anything derived from a wild bat

- intentionally or recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection
- intentionally or recklessly disturb any wild bat whilst it is occupying a structure or place that it uses for shelter or protection

2.0 METHODOLOGY

2.1 Data Survey

2.1.1 In order to compile background information on the site (*central grid reference TL 240 125*) for the Extended Phase I Ecological Survey (*Keystone Environmental, 2007*), the Hertfordshire Biological Records Centre were contacted for details of protected species, including bats, within a 1km radius of the site boundary.

2.1.2 In addition, any information regarding statutory sites designated for bats within 8km of the site boundary were also requested.

2.2 Preliminary Building Inspection

2.2.1 The Preliminary Bat Survey was undertaken on 14th and 15th August 2007 by a Consultant Ecologist and Graduate Ecologist from Keystone Environmental working as accredited agents on behalf of a bat licence holder (Licence Number 20062013). Weather conditions on both days of the survey were scattered showers and sunny spells, with a light to moderate breeze and moderate cloud cover, and a temperature of around 17 degrees Celsius.

2.2.2 Bat species are increasingly using buildings to roost as natural roosting places in tree holes and caves are becoming scarcer or are being disturbed. All buildings, in particular the roofs, eaves and walls, are potential roost sites (*Bat Conservation Trust, 2000*). All buildings were inspected externally and internally, where access was available, for signs of bat activity. These typically include bat presence, droppings, feeding remains, urine stains, and grease marks. Equipment used to aid the survey included low and high-powered torches, ladders and close focussing binoculars.

2.2.3 Notes were made on the following in accordance with guidance produced by the Bat Conservation Trust (BCT) for ecological consultants:

- the age of the structure
- wall construction (material, solid/cavity)
- whether there are hanging tiles or cladding
- the type of roof covering
- whether the loft is lined or insulated
- the position of potential or actual access points (including height above ground and aspect)
- the location of roosting sites (if any)
- the number of bats present at the time of the visit (count or estimate)
- the species
- any droppings present (quantity, distribution, location, age)
- other information (areas which could not be accessed *etc*.)

2.3 Tree Survey

2.3.1 Bats roost in natural holes, crevices and sheltered places. These features particularly tend to occur in mature trees. The most utilised types of tree are Oak spp., Ash, Beech and Scots Pine. Trees, especially when forming a linear feature, are also of value for navigation, foraging and as flight lines. Bat species that will make use of trees as roost sites are Whiskered/Brandt's, Natterer's, Bechstein's, Daubenton's, Noctule, Leisler's, Pipistrelle spp., Barbastelle, Brown Long-eared and rarely Serotine.

2.3.2 Trees present across and immediately bordering/overhanging the site were additionally assessed for their potential to support bat roosts. Signs of bat roosts in trees, according to The Bat Conservation Trust (2000), are as follows:

- obvious holes, cavities and splits
- dark staining on the tree below holes
- staining around holes caused by natural oils in bats' fur
- scratch marks around holes from claws
- droppings below holes
- noise (*e.g.* squeaking and chattering)
- on close inspection holes may contain droppings or smell of bats

2.4 Activity Survey

2.4.1 An activity survey was conducted to ascertain the level of activity of any bat species using the site for roosting, foraging and commuting. Two surveyors arrived ½ hour before dusk and continued the survey for 1½ hours after dusk.

2.4.2 Surveyors were equipped with Stag Electronics Duet bat detectors used in combined frequency division and heterodyne mode. Registrations were recorded on MP3 players and notes were made on species recorded, behaviour, time of registration, location and direction of flight where possible, including incidental observations from surrounding habitats. Where it was not possible to identify a bat species on site, audio recordings were later analysed using Bat Sound.

2.4.3 The activity survey was conducted on the 14th August 2007. Weather conditions were clear with scattered cloud and a temperature of 14 degrees Celsius.

2.5 Site Status Assessment

2.5.1 The structures and trees present on site have been evaluated to assess which of the following categories they fall into, if any (*English Nature, 2004*):

- maternity site, where babies are born and raised to independence
- hibernation site, where bats may be found during the winter
- mating site, where males and females gather during the autumn
- feeding site, where bats rest between feeding bouts during the night but are rarely present during the day
- transitional (or swarming) site, where bats may be present during the spring or autumn
- summer roost, used by males and non-breeding females

3.0 SURVEY RESULTS

3.1 Data Survey

3.1.1 The Hertfordshire Biological Records Centre provided four species records of Common Pipistrelle (45kHz) and three species records of Brown Long-Eared bats within 1km of the site.

3.1.2 There are no records of statutory sites designated for bats within 8km of the site boundary.

3.2 Building Survey

3.2.1 A description of each building is given below followed by Table 1, which presents which buildings have features suitable for bats and their potential to support bat roosts.

Building 1

3.2.2 A single storey office building of rendered brick base, with metal frame and plastic window wall construction with no cavities, built into the boundary wall of the site. It has a flat roof, covered by bitumen felt with a moss covering, and an underside of plastic soffit and fascia.

Building 2

3.2.3 A 1960's listed, three to four-storey building to be retained in the redevelopment. Externally it is solid concrete in structure, with a flat concrete roof covered in bitumen felt which has been painted with metal-effect paint that extends over the side of the building, with no internal roof space. Low ground vents and grills into the underground basement are meshed over. Internally the building has solid walls and a false ceiling with poured concrete ceiling above; all internal spaces are well sealed, including the basement.

Building 3

3.2.4 A single-storey building joined to building 2; brick sided with a solid concrete front in construction with a flat concrete roof covered in bitumen felt which has been painted with metal-effect paint that extends over the side of the building, and no internal roof space. There is plastic soffit boxing beneath the roof and metal guttering at the edges. Internally the building has solid walls and a false ceiling with concrete ceiling above; all internal spaces are well sealed, including the basement.

3.2.5 A single storey walkway extends to the south behind building 3 of metal frame and plastic glazing construction. The roof is flat, with a felt lining and metal flashing on the top. It has no roof space and no internal cavities.

Building 4

3.2.6 A six-storey concrete building, with solid base and exterior metal cladding. The windows are metal framed with plastic glazing. As before, it has an exposed, flat concrete roof with painted bitumen felt, with a slight lip at the roof edge where it meets the top of the metal cladding. Internally the building has plasterboard walls and false ceilings, with solid poured concrete above and no accessible enclosed cavities or roof space. The basement contains clean rooms, with sealed labs, pipes and machinery. It has open metal vents that are meshed, preventing access, and connects to building 5.

Building 5

3.2.7 A five-storey building of metal girder frame construction, with brick base to waist height that has degraded in parts revealing a cavity wall, above which is poured concrete and 'mosaic effect' tiled walls and metal cladding with metal framed windows. It has an exposed flat, felt and paving slab-covered roof with metal flashing at the roof lip. Some vents are open on each storey, but covered by grilles. The east end of the building has a stairwell constructed of glass with a metal frame. Internally the rooms have false ceilings, with solid poured concrete ceiling above and no cavities. The fifth floor is an engineering/maintenance room, containing metal tanks, piping and ventilation units. It is exposed to the elements, with many open doors and has become heavily infested with pigeons. The basement is fully sealed, and is interconnected to the basement of building 4.

Building 6

3.2.8 A five-storey building extension to the south of building 5, of metal girder frame construction, with concrete base and metal cladding walls, metal window frames and plastic windows. The roof is of the same construction as building 5. Internally the building is completely open, revealing the girder frame construction and roofing materials, with no enclosed roof space. The dividing walls are breezeblocks with no cavity.

Building 7

3.2.9 A four-storey building constructed of poured concrete, with 'mosaic effect' tiled surface walls, metal framed plastic windows and flat roof with bitumen felt covering. Many open metal vents exist around the building; all are meshed over preventing access for bats. There are also grills on the ground leading to the underground car park that are also meshed. Internally, the ground floor contains a bicycle storage area, open at the south-east corner, with large, open rooms divided by plasterboard with a small cavity. The main buildings have false ceilings and plasterboard walls, with solid concrete ceilings above. A stairwell at the north of the building has an open door leading to the roof hatch that has many windows and a small ceiling cavity.

Building 8

3.2.10 A two-storey building with metal girder structure, concrete base and inner and outer brick-skin walls with concrete cladding and metal-framed windows. The roof is flat, constructed with concrete beams and corrugated asbestos covered by bitumen roofing felt. Internally the rooms have false ceilings, with a small cavity.

Building 9

3.2.11 A one-storey solid brick building with no wall cavity and metal-framed plastic windows. The north and south side of the building are covered by huge vents, with mesh grill coverings, and tube ducts at the southern end. The roof is flat, constructed of concrete paving slabs, with a slight lip over the eaves. Internally it has two rooms; the front room with a plasterboard ceiling, with a cavity of 0.5m high and the back room of the building completely open to the roof, with possibly a narrow cavity in-between the roofing material and ceiling.

Building 10

3.2.12 An operation building; two storeys high, but internally consisting of one completely open, large room. It is brick built to 2.5m high, with metal girder frames and walls of corrugated steel sheeting, with metal window frames and corrugated metal roofing. The front doors are open, and the building contains noisy piping and machinery.

Building 11

3.2.13 Three-storey building, of metal girder frame, with brick-structured base, poured concrete cladding and metal window frames. The roof is flat, and covered by sealed bitumen felt. Metal piping and stairwells are present around the outside of the building, and a ventilation shaft at the north and south end has open vents into a suction shaft that is exposed to the elements. Internally the rooms have a mixture of solid concrete ceilings with solid concrete walls, and false ceilings with solid concrete above.

Building 12

3.2.14 A three-storey metal framed, brick structured building with metal window frames and doors. It has a flat roof covered in bitumen that extends to 1m over the eaves, with lead flashing to hold it onto wooden cladding. The southern end has a band of wooden fascia boarding. Internally the building has false ceilings in parts but has no concealed roof spaces. The basement has a sealed entrance, is concrete and asbestos clad, with open plan rooms and car parks, and connects directly to buildings 5 and 13.

Building 13

3.2.15 A three-storey building, constructed in exactly the same structure as building 12, with a small extension on the side for machinery, with wooden eaves covered by felt roof held down by lead flashing. Inside it has been renovated fairly recently and has new, sealed ventilation vents on the outside. The basement is totally sealed containing clean rooms, pipes and lab equipment, with no hidden cavities or entry points.

Building 14

3.2.16 A four-storey building with metal girder frame, breezeblock and concrete inner and outer walls, and metal cladding around the outside. The front wall has a large metal sliding door with draught excluder and metal panel above preventing any access to bats. The basement is fully sealed, well-lit and regularly maintained.

Building 15

3.2.17 A small security cabin constructed with concrete walls, metal window frames and a flat, felt covered roof. Internally it has an accessible roof cavity above the false ceiling of 10cm high x 10m x 10m. The door is open and there is also access through a vent directly into the room.

Building 16

3.2.18 A small security cabin by the gate constructed with brick walls, metal window frames with a plastic window and a flat, felt covered roof. It has well sealed plastic soffit boxing under the eaves. Internally it has a small cavity within the roof and wall but it is not accessible.

3.2.19 A number of external features with the potential to support roosting bats were noted in each building. These were investigated, but no evidence of bat activity (*e.g.* staining or droppings) was observed. The identified features are summarised below:

Table 1: Buildings containing features suitable for bats and their potential to support bat roosts

Building No.	Features suitable for bats	Bat roost potential
1	• Contains no suitable features for roosting bats	Negligible
2	• Hole in boxing around one window frame leading to cavity behind • Narrow gap between metal guttering and wall around building; all cobwebbed	Low
3	• Small gaps in soffit boxing around gutters, allowing access to cavity within • Narrow gap between metal guttering and wall around building	Low
4	• Minor cracks in concrete walls providing small gaps • Small gaps between parts of the roof cladding and walls beneath roofing felt	Negligible
5	• Open vents on ground into basement below at north side of the building • Potentially internal concealed cavities in 5th floor engineering room; open to the elements, no bat evidence found • Metal flashing raised in parts next to lip of roof; heavily cobwebbed • Smashed windows allowing access inside building • Brick base of south side of building has degraded in parts, leaving holes into the cavity behind; heavily cobwebbed and low • Concrete slab missing under window at south side of building; gap but no cavity	Low
6	• Contains no suitable features for roosting bats	Negligible
7	• Open external vents provide access to underground car park area; vents are heavily cobwebbed, no bat evidence found • Bicycle storage area has potential for bat foraging, but no place for bat roosting • At car park entrance corrugated metal roofing cavities are all exposed • Door open at roof hatch of north stairwell with access to building and small roof cavity above false ceiling with potential for bat roost; all well lit with no evidence of bat activity • A slight gap at the roof edge between the lip of roofing felt and concrete wall, but no cavity beyond	Low
8	• Hole in brickwork at north end of building by piping leading to wall cavity; evidence of nesting birds • Gaps at the roof edge between asbestos panels and concrete beams around the building, especially at the south and west edge; no staining or evidence of bat activity	Low
9	• Potential roost space in roof cavity, but no access point • Small cavity between ceiling and roofing material; no access point	Low
10	• Contains no suitable features for roosting bats	Negligible
11	• Potentially a small cavity throughout the top of the roof space with access at part of the walls where filler is missing; no staining or evidence of bats • Small gaps in metal sheeting on roof vents; sub-optimal potential for bats	Low
12	• Small gaps between metal window frames and brickwork around building; no bat evidence found • Hole in brickwork where a pipe is missing possibly extending into a cavity beyond; heavily cobwebbed, no evidence of bats	Low
13	• Wooden eaves broken in two parts with access beneath the lead flashing to under the roofing felt; wet and exposed, with no bat evidence found • Small gaps between metal window frames and brickwork around building; no bat evidence found	Low
14	• Contains no suitable features for roosting bats	Negligible
15	• Access into building through open doors and side air vent, with access into internal roof cavity (approximately 10cm high x 10m x 10m) via hole in false ceiling; no bat evidence found	Low
16	• Small roof cavity, but no access point	Negligible

3.3 Tree Survey

3.3.1 There is a mature Horse Chestnut tree in the north-east corner of the site with a few minor rot holes from old removed branches with the potential to support roosting bats, but no evidence of bat activity (*e.g.* staining or droppings) was found in association with any of the identified features. The other branches are intact and sturdy.

3.3.2 A mature Sweet Chestnut and False Acacia on the area of improved grassland on site both have sturdy and intact branches. The remaining trees across the site are either too young or contain trunks/branches that are too thin to support suitable features for bats.

3.4 Activity Survey

3.4.1 During the activity survey low levels of Common Pipistrelle activity (foraging, feeding and regular passes throughout the course of the survey) were recorded in the improved grassland area at the east of the site. This was focused around buildings and trees in the darker area of grassland, less well lit by the street lighting adjacent to the site (refer to *Drawing No. 7481_2.psd1*). Full results of the activity survey can be found in *Appendix 1*.

3.4.2 No bat activity was recorded in association with any of the buildings on site that contain features with the potential to support roosting bats.

4.0 EVALUATION

4.1 Most of the buildings have varying potential in regards to the number and type of features present that are suitable to support crevice-dwelling bat species. Buildings 2, 3, 5, 7, 8, 9, 11, 12, 13 and 15 all have low bat roost potential. All of these offer sub-optimal roosting opportunities for crevice dwelling bat species and the majority of features were found to be heavily cobwebbed indicating no recent entry by bats. In addition, no evidence of bat activity *i.e.* staining, grease marks or droppings were identified in association with any of these. Buildings 1, 4, 6, 10, 14 and 16 have negligible bat roost potential.

4.2 Only one tree, a Horse Chestnut, contains features that could support roosting bats and these only have a low potential to house bat roosts. No evidence of use by bats was found in association with these.

4.3 Some species, such as the Brown Long-eared, Natterer's and Brandt's bat, are frequently recorded in underground sites during the winter, which provide cool, humid conditions and shelter from rapid temperature changes and disturbance *(English Nature, 2004)*. The extensive basement network at Roche Gardens has negligible potential for winter hibernation, mainly due to their limited accessibility. The basements have previously all been well sealed and enclosed for health and safety reasons, with airtight doors and seals to prevent chemical leakage, therefore entry points to bats are virtually non-existent. They are all regularly maintained and therefore have moderate levels of disturbance; at the time of survey many were still well lit. All ventilation vents to the basements on site are meshed over. Only one mesh is missing on a ground vent adjacent to building 5, containing gaps of around 5cm; the room beyond has a closed door preventing entry to further basements.

4.4 The trees and buildings surrounding the improved grassland area provide foraging and feeding grounds, and so are moderately significant features of the site.

4.5 During the activity survey the registrations on site were of low level Common Pipistrelle activity recorded in association with commonplace habitats *i.e.* along building edges, around trees. Common Pipistrelle bats are the most common species of bat in the UK with widespread distributions. However, due to the significant decline in Common Pipistrelle numbers during the past decade they are listed as a UK Biodiversity Action Plan Priority Species.

4.6 Low levels of activity from the most common bat species may be classified of low local significance and of negligible value in a wider context. Habitats in which registrations occur are commonplace and easily replaceable within an urban landscape.

4.7 From the Preliminary Surveys undertaken to date we can conclude that the buildings on site all have negligible to low level potential for use by bats, only one tree on site has minimal potential for use as a bat roost and there are low levels of Common Pipistrelle foraging and feeding activity on site. However, we do not currently have sufficient evidence to prove likely absence of summer bat roost sites.

5.0 IMPACTS AND MITIGATION

Impacts

5.1 The site is proposed for demolition and redevelopment. All of the buildings on site, except building 2, are to be demolished. The following impacts have therefore been identified:

- Loss of buildings that have negligible to low potential to support crevice-dwelling bat species.
- Degradation/interruption of bat foraging ground and commuting routes around the buildings and tree lines.
- Indirect impacts of disturbance during construction works and lighting post construction on the derelict building to the north of the site with bat roost potential.

Further surveys

5.2 In accordance with the Bat Survey Guidelines published by the Bat Conservation Trust (2007), if a building or structure is deemed to have a low likelihood of use by bats it is considered that one dusk and one dawn emergence survey is sufficient to provide confidence in a negative survey result. The survey should be conducted at dusk between May and September to gain sufficient information to conclusively demonstrate presence or show likelihood of absence.

5.3 The results of the emergence surveys may lead to modifications to the mitigation strategy detailed below.

Legal Compliance

5.4 The Wildlife and Countryside Act 1981 as amended by The CRoW Act 2000 and The Conservation Regulations 1994 makes it illegal to recklessly damage, destroy or obstruct access to any place that a wild bat uses for shelter or protection, whether the bat is occupying the shelter at the time or not.

5.5 Further surveys are required to establish whether a licence from Natural England is required to permit demolition and/or conversion of buildings.

Provision for bats

5.6 A definitive guide to provision for bats can only be produced once the emergence surveys are complete. However at this stage it is recommended that features be incorporated into new housing *i.e.* crevices under tiling and within soffits, or provision of bat-boxes should be made to provide interim roosting places for bats, and to compensate for any loss of potential crevice dwelling bat roosts due to the demolition of buildings. A tree hollow-type box that provides a void large enough for bats to cluster is appropriate for Brown Long-eared bats and Common and Soprano Pipistrelle summer roosts. This will help maintain the conservation status of bats within the area and help contribute to BAP targets.

5.7 It is also recommended that additional trees be planted to replace those that are being lost and which currently function as foraging habitat for bats. These should remain unlit to prevent any alteration to existing use by bats.

5.8 These provisions are based on the preliminary bat survey. They are subject to change on the basis of the subsequent emergence survey results.

Timing of Works

5.9 Timing constraints would only be applicable if bats were to be found as a result of the emergence surveys. A definitive programme can only be produced once these surveys are complete.

Care and Vigilance During Works

5.10 It is possible that crevice-dwelling bats (*e.g.* Pipistrelle) could be present in the surveyed building even without evidence of their presence being found. The contractor will therefore be advised to carry out all work with care and vigilance for bats, even after pre-works surveys and exclusion measures have been undertaken.

5.11 The contractor will be advised to adhere to the following procedures in the event bats are found during works:

- if the roost is still in the structure and bats are not injured, stop work and contact a licensed ecologist. If help is not available, allow bats to fly out of harms way
- if material containing a roost has been removed, the roost is not exposed and the bats are not injured, temporarily seal and isolate the roost, stop work and seek advice from a licensed ecologist. If advice is not readily available, re-open it and allow bats to relocate of their own accord
- if the roost has been exposed, and especially if bats have been injured, stop work, collect bats in a secure box or bag (using a glove) and contact a licensed ecologist or Natural England.

6.0 SURVEY AND REPORTING CONSTRAINTS

6.1 In some instances due to the height of buildings, evidence of activity and features suitable for bat use may be missed from the ground.

6.2 It is rarely possible to see into every space of potential use to roosting bats. It can therefore be difficult to be certain that crevice-dwelling species (*e.g.* Pipistrelle bats) are not using a structure.

6.3 The mitigation provisions have been made on the basis of the preliminary bat survey. They are subject to change when the final results of the emergence surveys are known.

6.4 This report details records of flora and fauna species noted during the field survey and anecdotal evidence. It should not be viewed as a complete list of flora and fauna species, which may frequent or exist on site at other times of the year.

7.0 REFERENCES

English Nature, 2004. *The Bat Mitigation Guidelines*

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APPENDIX 1 – SURVEY RESULTS

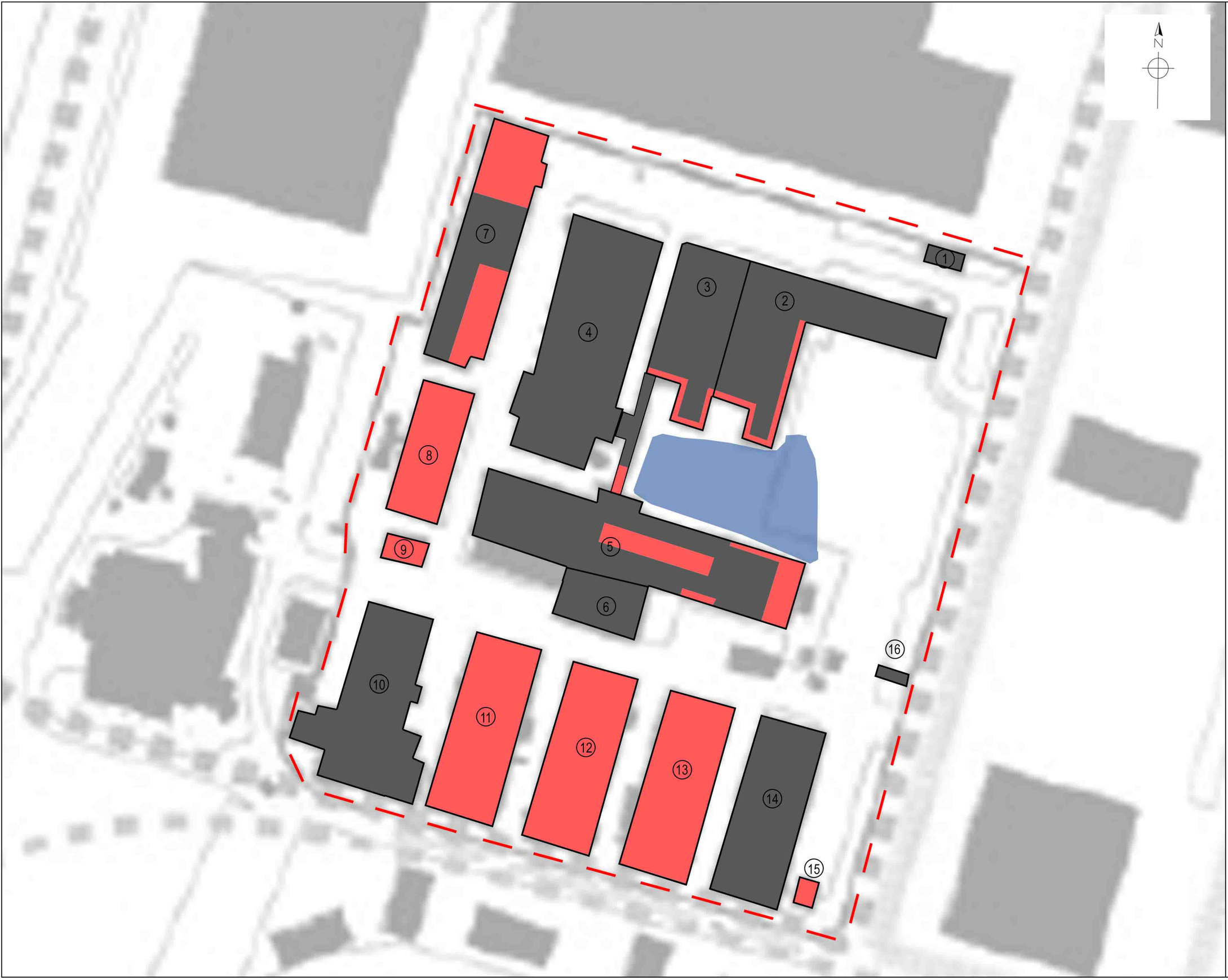
Dusk time: 20:35
Start time: 20:25
End time: 21:55

Date	Position	Time (hrs/min)		Species	Behaviour
		From	Until		
14.08.2007	Improved Grassland NE of site	21:07	21:13	45 Pipistrelle x 2	Foraging & feeding over vegetation & around buildings in area less lit by street lights
14.08.2007	Improved Grassland NE of site	21:34	21:41	45 Pipistrelle	Foraging & feeding around courtyard

APPENDIX 2 – SPECIES MENTIONED IN TEXT

(Not necessarily appearing on site)

Mammals	
Barbastella barbastellus	Barbastelle
Eptesicus serotinus	Serotine
Myotis bechsteinii	Bechstein's
Myotis brandtii	Brandt's
Myotis daubentonii	Daubenton's
Myotis mystacinus	Whiskered
Myotis nattereri	Natterer's
Nyctalus leisleri	Leisler's
Nyctalus noctula	Noctule
Pipistrellus pipistrellus	Common Pipistrelle
Plecotus auritus	Brown Long-eared
Flora	
Aesculus hippocastanum	Horse Chestnut
Castanea sativa	Sweet Chestnut
Fagus sylvatica	Beech
Fraxinus excelsior	Ash
Pinus sylvestris	Scots Pine
Quercus sp.	Oak sp.
Robinia pseudoacacia	False Acacia



Key

- Site boundary
- Buildings
- Buildings or parts of buildings with potential to support bats
- Pipistrelle Foraging Activity
- Building reference

project:

Roche Garden

drawing title:

Results of preliminary building and tree inspection and preliminary activity survey

client name:

George Wimpey

sheet size: A4	scale:	drawn by: JB	checked by: SB
drawing number: 7481_2.psd1		date: August 2007	

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