



# Ecological Survey Report

Philharmonic Court

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**RSK**





## RSK GENERAL NOTES

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# 1 EXECUTIVE SUMMARY

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1. This report provides information from ecological surveys carried out at Philharmonic Court on 16<sup>th</sup> and 21<sup>st</sup> August 2012, by RSK Environment on behalf of Marcus Worthington Properties Ltd. The ecological surveys were undertaken in support of a planning application for the site including the demolition of the existing buildings for redevelopment.
2. The surveys included a Phase 1 Habitat Survey, an assessment of habitats for the potential presence of protected species and building inspection surveys for roosting bats.
3. The site has habitats suitable for protected species including foraging bats and nesting birds.
4. The building was found to have limited external features suitable for roosting bats and in general the building has no potential for roosting bats.
5. There are a limited number of external features present that would support single bat species, no evidence of bats were recorded during the surveys and no further surveys are necessary. Construction works on these features should include Reasonable Avoidance Measures to avoid harm to bats.



## 2 INTRODUCTION

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### 2.1 Purpose of this Report

This report presents the results of ecological surveys carried out at Philharmonic Court, Liverpool, L8 7SD, on 16<sup>th</sup> and 21<sup>st</sup> August 2012. The surveys were carried out by Will Holden and Rebecca Harris of RSK Environment Ltd, and comprised a Phase 1 Habitat Survey, an assessment of the habitat for protected vertebrates, and an initial bat inspection of the buildings on site. The site location is shown in *Figure 1*.

### 2.2 Ecological Context

Philharmonic Court is currently used as a Halls of Residence by Liverpool University and comprises five three-storey buildings and one two storey building with some amenity grassland and trees. The site is located on the edge of Liverpool city centre and is surrounded by residential, industrial and retail properties with the occasional urban green space. The River Mersey is located approximately 1.5km west of the site.

### 2.3 Structure of this Report

The remainder of the report is structured as follows:

- Section 3 describes the survey methods;
- Section 4 contains the results;
- Section 5 details the ecological evaluation and recommendations for the site; and
- Section 6 lists the documents referred to in this report.



## 3 METHODS

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### 3.1 Background Data Search

Background sources were consulted for records of statutory and non-statutory designated sites and protected and notable species within 2 km of the site boundary. The sources contacted were:

- Merseyside Biobank; and
- Multi-Agency Geographic Information for the Countryside (MAGiC).

### 3.2 Phase 1 Habitat Survey

Phase 1 Habitat Survey is the most widely-used UK methodology for cataloguing and mapping wildlife habitat resources over extensive areas. All habitats in the survey area were mapped using standard colour codes. Target Notes describe habitats and ecological features of interest. The methodology for this survey follows guidance given in the *Handbook for Phase 1 Habitat Survey: A technique for environmental audit* (JNCC, 2003).

### 3.3 Habitat Assessment for Protected Species

#### 3.3.1 General

The site was assessed for its suitability for protected vertebrates. Obvious signs and incidental sightings of protected species would have been noted if found, although a single visit cannot usually confirm a species' presence or absence. Details of the survey methodology for each species are given below.

Taking into consideration the geographical region and the habitat types, protected animals that could be encountered are limited to bats and birds.

Other species listed on the UK or North Merseyside Biodiversity Action Plan were also considered. A summary of the legal protection of the relevant animals is provided in Appendix A. Details of survey methods for each species are given below.

#### 3.3.2 Commuting and Foraging Bats

Habitats were assessed for their suitability for foraging and commuting bats. Areas of particular interest vary between species, but generally include sheltered areas and those habitats with good numbers of insects, such as woodland, scrub, hedges, watercourses, ponds, lakes and more species-rich or rough grassland.



### **3.3.3 Nesting Birds**

Habitat that might be used by nesting birds was identified. All suitable habitat on the site was searched for evidence of bird's nests.

## **3.4 Initial Bat Survey**

The Bat Conservation Trust (BCT) provides guidance for bat survey work in *Bat Surveys: Good Practice Guidelines* (2012). This provides a methodology for undertaking initial building inspections and roost site surveys. The field surveys carried out as part of this assessment were undertaken according to these guidelines.

Rebecca Harris of RSK undertook the building assessments. Rebecca holds a Natural England licence allowing the disturbance of bats for the purposes of survey in all counties of England (Licence Number 20122770) and has over four years experience of undertaking bat surveys of buildings.

### **3.4.1 Assessment of Bat Roost Potential of Buildings**

Bats are crevice dwelling mammals and therefore it is often difficult to thoroughly inspect buildings for bats and evidence of bats without a destructive search, which is not generally practical or acceptable. An example of this would be where bats roost between the roofing felt and tiles. These areas cannot be inspected, but a surveyor would know that bats might roost here because there are places where bats could gain entry.

Buildings were assessed for their bat roost potential according to the following factors that influence the likelihood of bat roosting:

- Surrounding habitat - whether there are potential flight-lines and suitable bat foraging habitat nearby;
- Building construction detail;
- Building condition;
- Internal conditions - bats favour sheltered locations with a stable temperature regime, protection from the elements and little wind/light/rain penetration;
- Potential bat-access points - whether there is flight and crawl access; and
- Potential roosting locations - accessible voids, cracks and crevices.

Descriptions of the buildings were recorded on survey sheets, and digital photographs were taken as a record. Detailed information regarding the assessment of suitability for buildings to support roosting bats is provided in *Table 1* below.



**Table 1. Classification Criteria for Bat Roosting Potential of Buildings and Built Structures – adapted from BCT Guidelines (2012)**

Category (Potential to support roosting bats)	Description
Negligible potential	Buildings with no features suitable for supporting roosting bats. Well maintained buildings or built structures that provide few opportunities for bat access/roosting ( <i>i.e.</i> with no cracks or crevices). Building composed of prefabricated steel and sheet materials. No internal loft space. High level of regular disturbance; high interior light levels and subject to large temperature fluctuations. Buildings may be surrounded by poor or sub-optimal bat foraging habitat. No evidence of bats found.
Low Potential	Buildings with limited features to support roosting bats - shallow crevices ( <i>e.g.</i> where mortar is missing between brickwork). Buildings may have large open locations subject to large temperature fluctuations. Buildings may be surrounded by poor or sub-optimal bat foraging habitat. No evidence of bats found.
Moderate potential	Buildings with some features suitable for roosting bats – building usually of brick or stone construction with a small number of features suitable for roosting bats – loose roof or ridge tiles, gaps in brickwork, gaps under fascia boards, and/or sealed internal loft space. No evidence of bats found.
High Potential	Buildings with a large number of suitable roosting features or extensive areas with potential for roosting bats. Sheltered locations with a stable temperature regime and suitable access points. Roost features can include: weatherboarding and/or hanging tiles with gaps/large (>20cm) roof timbers with mortise joints, cracks, holes; poorly maintained fabric providing ready access into roofs, walls, but at the same time not being draughty and cool; large and complicated roof void with unobstructed flying spaces. No evidence of bats found.
Confirmed roost	Bats or evidence of bats recorded within the building during the initial inspection surveys or during dusk/dawn surveys. A confirmed record (supplied by records centre/local bat group) would also apply.

### 3.4.2 Systematic Inspection for Bats or Evidence of Bats

All buildings on site were inspected externally for bats on 21<sup>st</sup> August 2012.

Features inspected (if present) included:

- roof slopes and the ridge;
- wall, window and door surfaces;
- window and door frames;
- wall bases;
- wall ledges and wall tops;
- roof voids;
- roof beams;
- cracks, crevices and sheltered voids including joints;
- the floors and on tops of stored items; and
- external features such as soffits, barge boards and lead flashing.



The absence of cobwebs from a hole, roof apex or ridge beam that would otherwise be covered in cobwebs can help to locate potential entrance points or roosting places for bats. This evidence is often found in conjunction with other evidence such as droppings.

### **3.5 Survey Constraints**

The bat inspection survey was sufficient to allow an evaluation of the likely use of the buildings by bat species, and to determine the requirement for further surveys or mitigation.

This data is relevant for a maximum of 12 months. If more than one year elapses prior to commencement of the development it may be advisable to conduct a further ecology survey to ensure up-to-date information.



## 4 RESULTS

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### 4.1 Background Data Search

#### 4.1.1 Designated Sites

There are no statutory designated sites within 2 km of the site.

There is one non-statutory designated site within 2 km of the site; Princes Park Local Wildlife Site (Proposed), which is located approximately 1.8km South West of the site and will not be affected by the redevelopment of the site.

#### 4.1.2 Noteworthy Species Records

No records of protected or notable species were returned for the site. Recent records for *Myotis* species, *Pipistrellus pipistrellus* (Common Pipistrelle), *Pipistrellus* species, and *Plecotus auritus* (Brown long-eared Bat) were returned within the 2km search area.

It is important to note that a lack of records within an area does not prove absence.

### 4.2 Habitat Types

#### 4.2.1 Overview

The following habitat types are present:

- ornamental planting and trees; and
- amenity grassland

#### 4.2.2 Ornamental Planting and Trees

Many of the buildings and hardstanding paths are bordered by ornamental planting. These areas are generally species poor and dominated by one or two species including *Berberis vulgaris* (Barberry), *Brachyglottis ×jubar* (Shrub Ragwort), *Cotoneaster* sp (Cotoneaster), *Cornus sanguinea* (Dogwood), *Eupatorium cannabinum* (Hemp-agrimony), *Hebe* sp (Veronica), *Hypericum* sp (St John's Wort), *Laurus nobilis* (Bay), *Mahonia aquifolium* (Oregon-grape), *Olearia macrodonta* (New Zealand Holly), *Prunus* sp (Cherry), *Prunus laurocerasus* (Cherry Laurel) and *Sambucus nigra* (Elder).

Within some of the ornamental beds and scattered throughout the site are semi-mature trees. These include *Acer pseudoplatanus* (Sycamore), *Betula pendula* (Silver Birch), *Prunus laurocerasus* (Cherry Laurel), *Prunus* sp (Cherry), *Sorbus aucuparia* (Rowan) and *Tilia ×europaea* (Lime). A single mature *Platanus ×hispanica* (London Plane) is located just outside the north west corner of the site.



### 4.2.3 Amenity Grassland

The remainder of the site (not including buildings and hard standing) is amenity grassland. This has a short, open sward and appears to be regularly cut. The grassland is dominated by *Poa trivialis* (Rough Meadow-grass) with scattered *Dactylis glomerata* (Cock's-foot). Broad-leaved herbs present include *Achillea millefolium* (Yarrow), *Bellis perennis* (Daisy), *Cardamine flexuosa* (Wavy Bitter-cress), *Epilobium* sp (Willowherb), *Euphorbia helioscopia* (Sun Spurge), *Oxalis acetosella* (Wood-sorrel), *Plantago major* (Greater Plantain), *Prunella vulgaris* (Selfheal), *Ranunculus repens* (Creeping Buttercup), *Rumex obtusifolius* (Broad-leaved Dock), *Taraxacum* sect. *Ruderalia* (Common Dandelion) and *Trifolium repens* (White Clover).

## 4.3 Habitat Assessment for Protected Species

### 4.3.1 Bats

The habitats on site are suitable for foraging bats, particularly the trees. The trees on site consist of young, semi-mature and mature specimens, however all are in good condition and do not have features suitable for roosting bats.

### 4.3.2 Nesting Birds

The shrubs and ornamental planting are suitable habitat for nesting birds. The areas of amenity grassland are suitable foraging habitat for birds, but would not be used by ground-nesting species.

## 4.4 Initial Bat Survey

### 4.4.1 Roosting Bats

Results from the external and internal building inspections are given below. Photographs are shown in *Appendix D*, and the locations and block numbers are shown in *Figure 2*.

The buildings at Philharmonic courts are all of the same construction, built in the 1970's and comprising brick three storey buildings with interlocking clay tile pitched roofs in good condition with no missing or loose tiles. There is a single building (*U block, Figure 2*) that has a sloped roof and is only two storeys high. All of the buildings have weatherboarding present which is in good condition with no gaps or access points. On one aspect of each building are square bay windows on each floor (*Bat Note 1, Figure 2*), there is lead flashing on the top corners of each bay window which has a small gap which could provide roosting opportunities for a single bat (*Appendix D, Plate 4*). All the gaps were fully inspected, all of the gaps were heavily cobwebbed and no evidence of bats was recorded.

All of the internal roof voids were accessed and fully inspected for evidence of bats. As with the external features of the buildings, all of the internal roof spaces are of the same



construction and dimensions. The roof voids are constructed of timber beams with a boarded floor and are insulated on the floor and ceiling with padded foil insulation material. The roof voids are narrow, approximately 2m high and span the whole length of the building, the internal voids were uncluttered and very warm with no visible access points for bats to enter the loft space. No evidence of bats was recorded within the roof void.

Aside from the small gaps present in the lead flashing on the bay windows, where there was no evidence of bat activity at the time of the survey, the buildings at Philharmonic Court have no potential to support roosting bats.



## 5 EVALUATION AND CONCLUSIONS

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### 5.1 Botanical

#### 5.1.1 Ornamental Planting and Trees

The ornamental planting and scattered trees within the development area are generally species-poor and common habitats within the local area, and further botanical surveys are not necessary. Trees should be retained or replaced if possible as they have ecological value in a site context.

#### 5.1.2 Amenity Grassland

Amenity grasslands are common and ubiquitous throughout the UK. These habitats are species-poor and easily re-creatable and have negligible ecological value. No further botanical survey work is required.

#### 5.1.3 Species

Although this initial survey will not have recorded all the plants at the site, a sufficiently detailed survey was undertaken to allow an assessment of the ecological value of the habitats. Further surveys would certainly record more species, but this is very unlikely to alter the overall assessment of the ecological value of the site.

### 5.2 Protected Vertebrates

#### 5.2.1 Bats

No evidence of roosting bats was found and the buildings surveyed provide limited roosting opportunities for bats. There are several shallow gaps at the junctions of the bay windows where lead flashing is present; no evidence of bats were found at the time of the survey.

Taking into consideration the low suitability of the potential roosting habitat and the urban context, it is unlikely that bats use the building for roosting, and no further surveys are necessary.

However, as a precaution, should demolition of the building be undertaken between the months of April to September inclusive, reasonable avoidance measures should be taken when demolishing the building in order to avoid harm to bats. The lead flashing on the corners of the bay windows should be removed by hand, using hand-tools only.

As the roosting feature is unsuitable for hibernating bats due to the likelihood of large temperature fluctuations, any works outside of the bat active season (April to September inclusive), can proceed as normal.



In the unlikely event that a bat is found during the demolition, works would have to stop immediately and a suitably qualified ecologist should be contacted. A European Protected Species licence from Natural England would be required to allow work to continue. Natural England allow 35 working days to process licence applications following receipt of all the relevant documentation.

### **5.2.2 Birds**

As the habitats on site are suitable for nesting birds, any vegetation removal should take place outside of the bird nesting season, (which is between March and August inclusive). If this is not possible then the vegetation should be checked by a suitably qualified ecologist (or an appointed competent person) for bird nests either 24 hours before, or immediately prior to, commencement of vegetation clearance. Any nests that are being used or being built will need to be left undamaged, undisturbed and *in situ* until the chicks in the nest have fledged.



## 6 REFERENCES

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Bat Conservation Trust (2012), 'Bat Surveys: Good Practice Guidelines.' Bat Conservation Trust, London.

HMSO *The Wildlife and Countryside Act 1981* (Variation of Schedule 9) (England and Wales) Order 2010.



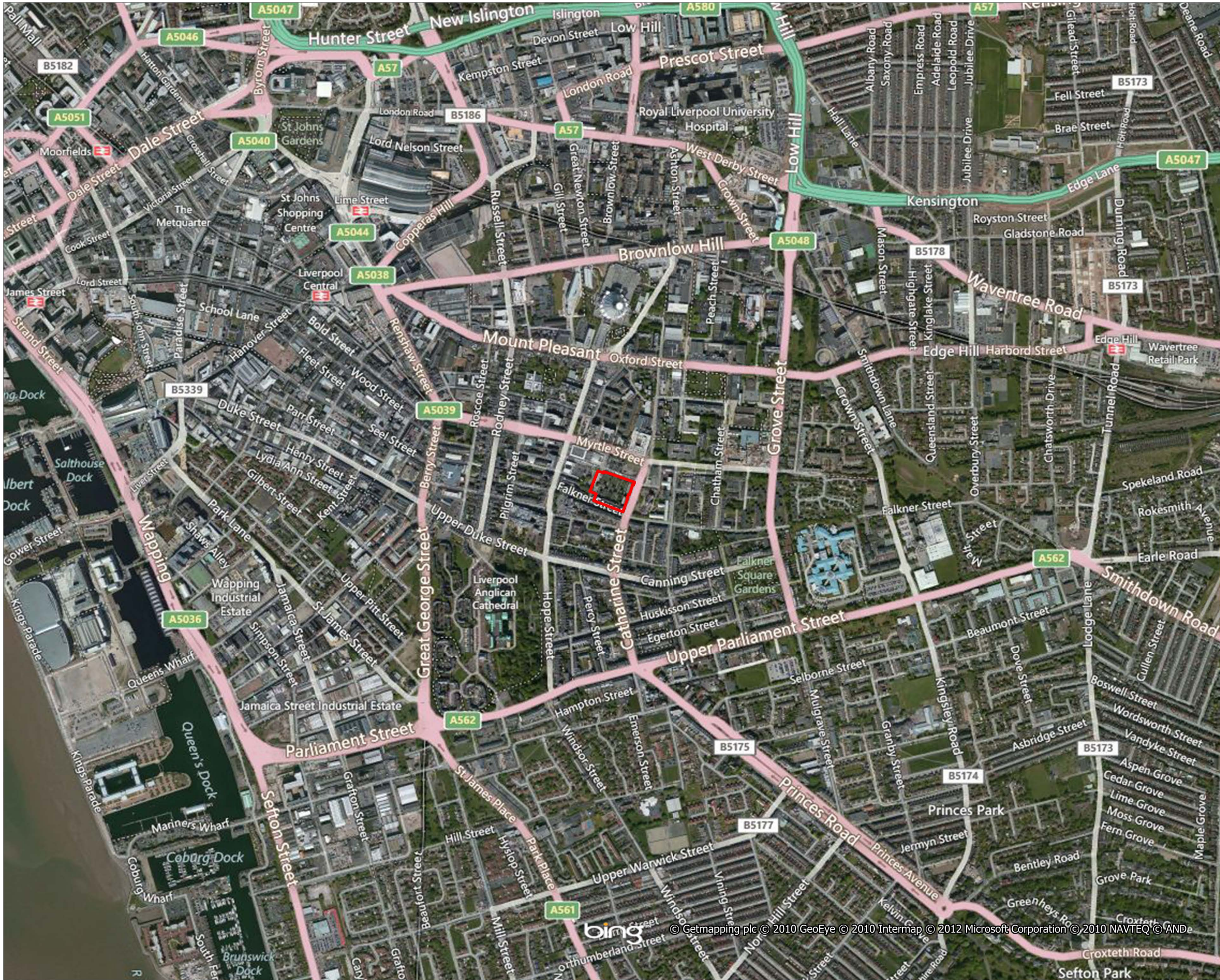
## APPENDIX A - FIGURES

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*Figure 1 – Location Map*

*Figure 2 – Phase 1 and Bat Survey results*





Legend :

Philharmonic Court

00	22.08.12	First Draft	AJ	LH	RH
Rev	Date	Description	Drm	Chk	App

Philharmonic Court

Title :

Figure 1  
Survey Location

00.20.4

Kilometres

Scale = 1:10,000 @ A3

N

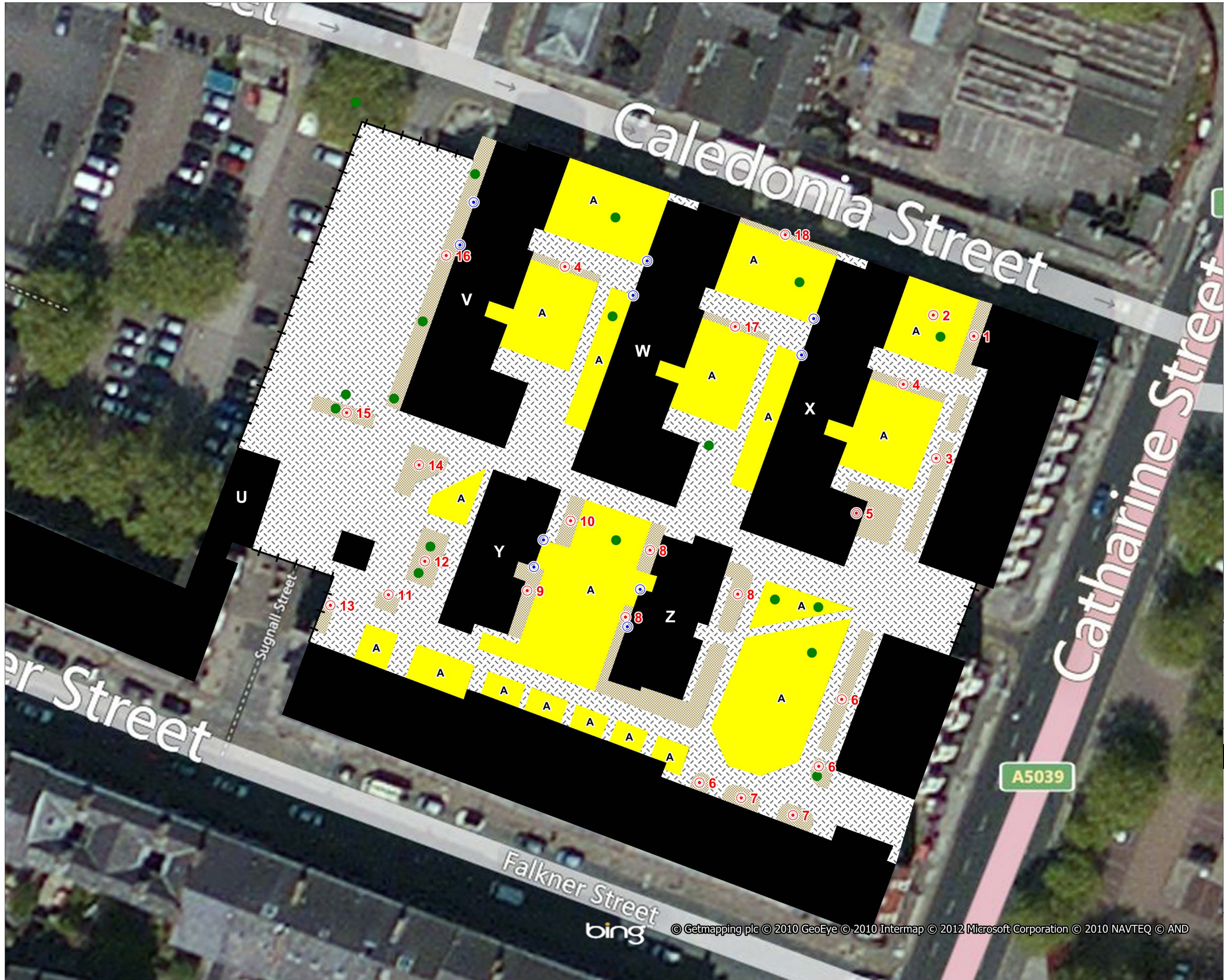
W

E

S

REV 00





Legend :

- Amenity Grassland
- Building
- Hardstanding
- Introduced Shrub
- Fence
- Bat Note
- Target Note
- Tree

Southport

Liverpool

Rhyl

00	20.08.12	First Draft	AJ	LH	WH
Rev	Date	Description	Drm	Chk	App

Philharmonic Court

**RSK**

Title :

Figure 2  
Phase 1 and Bat Survey Results

0 10 20

Metres

Scale = 1:500 @ A3

N

W E

S

REV 00



## APPENDIX B - LEGISLATION

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### Bats

All species of British bat are protected by *The Wildlife and Countryside Act 1981* (as amended) extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst it occupies a bat roost.

Bats are also European Protected Species listed on *The Conservation of Habitats and Species Regulations 2010*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats, including in particular any disturbance which is likely (a) to impair their ability - (i) to survive, to breed or reproduce, or to rear or nurture their young; or (ii) hibernate or migrate, where relevant; or (b) to affect significantly the local distribution or abundance of the species to which they belong.
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.

### Birds

#### Birds general protection

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CRow Act.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.



### **Birds (specially protected species)**

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CRow Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.



## APPENDIX C - TARGET NOTES

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Target notes are shown in *Figure 2*.

### Botanical Target Notes

*Target Note 1* – Ornamental hedge alongside a building, consisting of *Laurus nobilis* (Bay) and *Prunus* sp (Cherry).

*Target Note 2* – Amenity grassland with a short, open sward and appears to be regularly cut. The grassland is dominated by *Poa trivialis* (Rough Meadow-grass) with scattered *Dactylis glomerata* (Cock's-foot). Broad-leaved herbs present include *Achillea millefolium* (Yarrow), *Bellis perennis* (Daisy), *Cardamine flexuosa* (Wavy Bitter-cress), *Epilobium* sp (Willowherb), *Euphorbia helioscopia* (Sun Spurge), *Oxalis acetosella* (Wood-sorrel), *Plantago major* (Greater Plantain), *Prunella vulgaris* (Selfheal), *Ranunculus repens* (Creeping Buttercup), *Rumex obtusifolius* (Broad-leaved Dock), *Taraxacum* sect. *Ruderalia* (Common Dandelion) and *Trifolium repens* (White Clover). Across the site, within the amenity grassland are scattered semi-mature trees including *Acer pseudoplatanus* (Sycamore), *Betula pendula* (Silver Birch), *Prunus* sp (Cherry) and *Tilia xeuropaea* (Lime).

*Target Note 3* – Ornamental shrub bed with *Acer pseudoplatanus* (Sycamore), *Cirsium arvense* (Creeping Thistle), *Cotoneaster* sp (Cotoneaster), *Rubus fruticosus* agg. (Bramble) and *Vicia cracca* (Tufted Vetch).

*Target Note 4* – Ornamental shrub hedge dominated by *Cornus sanguinea* (Dogwood).

*Target Note 5* – Ornamental shrub bed dominated by *Berberis vulgaris* (Barberry).

*Target Note 6* – Ornamental shrub bed dominated by *Cotoneaster* sp (Cotoneaster) with a semi-mature *Acer pseudoplatanus* (Sycamore).

*Target Note 7* – Ornamental shrub bed dominated by *Olearia macrodonta* (New Zealand Holly) with scattered *Sambucus nigra* (Elder).

*Target Note 8* – Ornamental shrub bed with *Acer pseudoplatanus* (Sycamore), *Berberis vulgaris* (Barberry), *Brachyglottis xjubar* (Shrub Ragwort), *Calystegia sepium* (Hedge Bindweed), *Eupatorium cannabinum* (Hemp-agrimony), *Prunus laurocerasus* (Cherry Laurel), *Sambucus nigra* (Elder) and *Urtica dioica* (Common Nettle).

*Target Note 9* – Ornamental shrub bed with *Brachyglottis xjubar* (Shrub Ragwort) and *Rubus fruticosus* agg. (Bramble).



*Target Note 10* – Ornamental shrub bed with *Cornus sanguinea* (Dogwood) and *Laurus nobilis* (Bay).

*Target Note 11* – Ornamental shrub bed with *Eupatorium cannabinum* (Hemp-agrimony), *Hebe* sp (Veronica) and *Hypericum* sp (St John's Wort).

*Target Note 12* – Ornamental shrub bed with *Cotoneaster* sp (*Cotoneaster*), *Eupatorium cannabinum* (Hemp-agrimony), *Mahonia aquifolium* (Oregon-grape), *Rosa* sp (Rose), *Sambucus nigra* (Elder) and *Tilia xeuropaea* (Lime).

*Target Note 13* – Ornamental shrub bed with *Hebe* sp (Veronica) and self seeded *Fraxinus excelsior* (Ash) saplings.

*Target Note 14* – Ornamental shrub bed with *Prunus* sp (Cherry), *Rosa* sp (Rose) and *Sambucus nigra* (Elder).

*Target Note 15* – Ornamental shrub bed with *Cotoneaster* sp (*Cotoneaster*), *Hebe* sp (Veronica) and *Tilia xeuropaea* (Lime).

*Target Note 16* – Ornamental shrub bed with *Acer pseudoplatanus* (Sycamore), *Cornus sanguinea* (Dogwood), *Epilobium hirsutum* (Great Willowherb), *Eupatorium cannabinum* (Hemp-agrimony), *Rubus fruticosus* agg. (Bramble) and *Sorbus aucuparia* (Rowan).

*Target Note 17* – Ornamental shrub bed with *Chamerion angustifolium* (Rosebay Willowherb) and *Ilex aquifolium* (Holly).

*Target Note 18* – *Cotoneaster* sp (*Cotoneaster*) and *Hedera helix* (Ivy) bed climbing up adjacent wall.

## Bat Target Notes

*Bat Note 1* – Lead flashing on corner of bay windows with gap present underneath



## **APPENDIX D – PHOTOGRAPHIC PLATES**

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- Plate 1: Three storey buildings at Philharmonic Court
- Plate 2: 'Block U' – two storey building
- Plate 3: Example of the internal loft space (same across all buildings)
- Plate 4: Lead flashing at the corner of the bay windows (circled)

