





The Old Coach House, Aston

On behalf of Andrea Boyle

July 2021

Ecology by Design Ltd,

Hampden House, Monument Park, Chalgrove, Oxfordshire, OX44 7RW



Project Code	Title	Date of Issue
EBD01732	The Old Coach House	16 July 2021

	Name	Date
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1 Executive Summary

Report purpose	This report identifies the potential ecological impacts, mitigation, compensation and enhancement measures in relation to renovation works of the property known as The Old Coach House, Bull Lane, Aston, OX18 2DT.
Date and methods of survey	 Surveys of the site were conducted in February, May and June 2021 including: A preliminary roost assessment (PRA); One emergence survey and one pre-dawn return to roost survey.
Key findings	 The building was considered to have moderate potential for roosting bats due to gaps beneath the barge board across the entire building, several holes in the stonework across the building and occasional lifted tiles potentially suitable for crevice dwelling bats. Two bat droppings were also discovered in the loft space although these appeared to be old. A dusk emergence and a dawn re-entry survey was recommended to establish whether bats were roosting within these features.
	• One soprano pipistrelle bat was recorded roosting beneath the barge board on the north-eastern elevation of the property. However, no works will take place within close proximity to this location and no other bat roosts were identified across the property and bats therefore do not pose a constraint to the proposed works.
Recommendations	Due to the presence of a roost on-site (although unaffected) It is recommended that an ecologist briefs all contractors on site about bat roosts and their protection on the first day that works take place. It is also recommended that any barge board to be affected is checked as a precaution, as bats can change roosting locations. If works do not start within a year of this report that this survey is updated due to the fact bats can move into a suitable roosting location at any point.
Delivering biodiversity enhancement	A bat box will be installed on the north-eastern elevation of the building once renovation works are complete to increase roosting opportunities for bats within the site and to satisfy local planning policy. It is also recommended that night scented flowers are planted within the garden to further improve the site for bats.



2 Introduction

2.1 Background and Survey Objectives

- 2.1.1 Ecology by Design Ltd was commissioned by Andrea Boyle to undertake a bat survey of The Old Coach House, Bull Lane, Aston, OX18 2DT (central grid reference SP 34340 02779).
- 2.1.2 The objectives of this report are:
 - Identify any potentially ecological constraints that may affect the proposed works;
 - Identify the species of bat using the surveyed area;
 - Assess the levels of activity of bats utilising the site; and
 - Inform mitigation measures required to ensure the favourable conservation status of bats is maintained.

2.2 Site Description

2.2.1 The Old Coach House is located in the south-east of the village of Aston. It is surrounded by arable fields to the south, east and west and by residential dwellings to the north.

2.3 Proposed Works

2.3.1 The development proposals involve an extension to the northeast elevation in the centre of the property, new Velux windows on the southwestern elevation and various internal reconfigurations.

2.4 Limitations/ Constraints

- 2.4.1 The wildlife and wider ecological interest of a site can change. The report presented here is a statement of the findings of the surveys carried out in February, April and June 2021.
- 2.4.2 Any appreciable delay (>1 year) in making reference to this report may necessitate a re-survey.
- 2.4.3 Weather conditions were considered suitable to conduct the surveys.



3 Methods

3.1 Desk Study

3.1.1 A desk study was completed to identify records of granted European Protected Species Mitigation licences within a 2km radius of the site (MAGIC, accessed 21/06/21) and local bat records were requested from Thames Valley Environmental Records Centre (TVERC) and returned on 22/06/2021.

3.2 Preliminary Roost Assessment

- 3.2.1 The building was subject to an internal and external Preliminary Roost Assessment (PRA) from ground level for its suitability to support roosting bats on 16th February 2021. The assessment was based on the guidance included in Collins (2016). The building was assessed to identify opportunities for bats to enter the building and/or roost within external features. Close focusing 10 x 50 mm binoculars and a high-powered torch were used to look for and assess features.
- 3.2.2 Evidence searched for included the presence of free hanging bats and bats within gaps and crevices, bat droppings, urine stains, rub marks, scratch marks and feeding remains.

3.3 Roost Surveys

- 3.3.1 Ecology by Design Senior Ecologist Kate Philpot (Natural England Licence Number Level 2 2020-47515-CLS-CLS) assisted by James Howsam (Natural England Licence Number Level 2 2019-43198-CLS-CLS), Hannah Smith (Natural England Licence Number Level 2 2015-12267-CLS-CLS), Steve Allen (Natural England Licence Number Level 2 2015-12267-CLS-CLS), Steve Allen (Natural England Licence Number Level 2 2015-12267-CLS-CLS) conducted a bat emergence survey on 26th May 2021. Kate Philpot assisted by Stacey Waring (Natural England Licence Number Level 2 2015-6768-CLS), Tony Wells and Olyvia Hall then conducted a bat return to roost survey on 6th July 2021.
- 3.3.2 The survey was based on the guidance included in the Bat Surveys for Professional Ecologists:Good Practice Guidelines (Collins, J. (ed.) 2016). Bat Detectors utilized included ElekonBatlogger M detectors to record any bats emerging from or re-entering the building.
- 3.3.3 The emergence survey commenced 15 minutes before sunset and lasted for 1.5 hours after, the re-entry survey commenced 2 hours before sunrise and finished at sunrise.
- 3.3.4 Surveyors were located on vantage points around the building focused on features identified during the preliminary roost assessment. These locations enabled all potential access features to be viewed during the survey.



3.4 Site/ Species Valuation for Roosting Bats

3.4.1 Based upon the framework for valuing bats in Ecological Impact Assessment designed by Wray *et al.* (2010), the site's roost (if present) is categorised and valued from District Level to International. These different bat roosts can be assigned to a geographic frame of reference as detailed in Appendix 3.



4 Results

4.1 Desk Study

4.1.1 Thames Valley Environmental Records Centre returned records of six species of bat within 2km of the site, a summary of which is included in Table 1 below. Some of the records below include small roosts, droppings and aural detector recordings. The closest record was from pipistrelle droppings discovered just over 300m to the north. No large roosts were identified by the record search.

Species	Latin Name	Earliest record	Most recent record	Number of records
Brown Long-eared Bat	Plecotus auritus	2011	2011	2
Common Pipistrelle	Pipistrellus pipistrellus	2004	2016	15
Natterer's Bat	Myotis nattereri	2004	2004	1
Serotine Bat	Eptesicus serotinus	2014	2014	1
Soprano Pipistrelle	Pipistrellus pygmaeus	2004	2011	6
Whiskered Bat	Myotis mystacinus	2014	2014	1

Table 1. Records of bats within 2km of the site (TVERC)

- 4.1.2 The site is situated within the Core Sustenance Zones¹ of all of the bat species located within the desk study (see Appendix 4).
- 4.1.3 A search of MAGIC located two European Protected Species Mitigation Licences which have been granted within 2km of the site. The closest of which is located approximately 400m southeast of the site. Further detail is provided in Table 2.

¹ Core Sustenance Zones are the area surrounding a communal bat roost within which habitat availability and quality will have a significant influence on the resilience and conservation status of the colony using the roost



Species of Bat	Date	Approx. location	Breeding Place	Resting Place
Common Pipistrelle	2017	300 m NW	No	Yes
Common Pipistrelle	2015	550 m NW	No	Yes

Table 2. European Protected Species Mitigation Licences within a 2km radius of the site (MAGIC).

4.2 Preliminary Roost Assessment

- 4.2.1 An external and internal Preliminary Roost Assessment (PRA) was undertaken by Senior Ecologist Kate Philpot on the 15th April (Natural England Licence Number Level 2 2020-47515-CLS-CLS) And Ecologist Emily Bartlett (Natural England Licence Number Level 1- 2019-43526-CLS-CLS). The assessment found the following:
- 4.2.2 The house is constructed of Cotswold stone with a clay tile roof and grey wooden barge board surrounding the vast majority of the property.
- 4.2.3 The garage is a grey painted brick structure with a corrugated flat roof. Internally the walls are concrete panels. The garage is used for storage and is heavily cobwebbed inside. There is access around the door but no evidence of bats inside the building. There are also gaps where the roof meets the walls but nowhere for bats to roost. The building is therefore considered to have negligible potential to support roosting bats and is not considered further within this report.
- 4.2.4 The house is generally in very good condition, the walls intact, the majority of tiles intact and flush with the exception of a few lifted tiles on the southwest elevation and at the northern end of the northeast elevation. There are several small gaps in the stonework on the northwestern gable end and gaps beneath the barge board along the entirety of the property. There were a few gaps around decorative beams above the windows on the northeast elevation. All these features identified could provide features potentially suitable for crevice dwelling bats; although no evidence of bats was found externally.
- 4.2.5 The loft space of the main house runs from the centre of the building to the northwestern end (the other half of the building has been built into the roof space). It has a timber frame and is lined with bitumen felt, it was boarded and insulated. There are a few sections of ripped felt where the roof tiles are exposed but in general it was in good condition. The loft space above the dormer window on the northeast elevation was lined with plastic and there were multiple



gaps at the eaves with light ingress; however it appeared that the gaps are grilled throughout. There are cavities in the brickwork inside the loft space and beneath some of the lifted felt. There is also a small inaccessible void running from the centre of the building to the southeastern end; this is packed with insulation and largely blocked by a steel girder. Two likely very old bat droppings were discovered within the loft space. There were two eaves cupboards at the southeastern end of the building; these were inspected and no evidence of bats discovered.

4.2.6 Although the bat droppings were discovered were very old and only two were discovered there are a number of potential roosting features for crevice dwelling bats on the exterior of the building. The building is therefore considered to have moderate potential for roosting bats.

4.3 Roost Surveys

4.3.1 The survey timings and weather conditions for the pre-dawn re-entry survey are detailed in Table 3 below.

Date	Sunset/Sunrise	Start	End	Weather
26 th May 2021	21:07	20:52	22:37	18°C, Cloud 5/8 ² 1 Beaufort ³ (throughout).
8 th July 2021	04:57	02:57	04:57	16-18°C, Cloud 8/8 1 Beaufort (throughout).

Table 3. Survey weather conditions

Dusk emergence 26th May 2021

4.3.2 A high level of common pipistrelle (*Pipistrellus pipistrellus*) foraging activity was recorded in the back garden of the property (although from only one or two bats). Several common pipistrelle bats flew from the direction of neighbouring properties to the west across the roof of The Old Coach House. Occasional passes by noctule (*Nyctalus noctula*) and brown long-eared bats (*Plecotus auritus*) were recorded towards the end of the survey. One soprano pipistrelle

² Cloud cover is measured using the system called oktas. The visible sky is divided into eight and cloud presence is determined within each section. A value of one to eight is then assigned (1 okta being cloudless to 8 oktas being total cloud cover).

³ The Beaufort scale is an empirical measure from 0-12 which relates wind speed to observed conditions. 0- Calm, 1- Light air, 2- Light breeze, 3- Gentle breeze, 4- Moderate breeze, 5- Fresh breeze, 6- Strong breeze, 7- Moderate gale, 8- Fresh gale, 9- Strong gale, 10- Whole gale, 11- Storm, 12- Hurricane force.



(*Pipistrellus pygmeaus*) was recorded re-entering beneath lifted barge board at 21:39 and then likely re-emerged again at 22:11 (although visibility by this point was difficult).

Dawn re-entry 8th July 2021

4.3.3 Low activity was recorded throughout the survey with the majority of passes by common pipistrelle and one brown long-eared bat call. No bats showed any interest in the building or re-entered.



5 Discussion

- 5.1.1 One bat was recorded re-entering and then likely emerging again from beneath barge board on the northeastern elevation but on the southern end of the building where works are not planned to take place.
- 5.1.2 No other bats were recorded emerging from, re-entering or indeed showing any interest in the building
- 5.1.3 No bats were recorded during the preliminary roost assessment and although two bat droppings were discovered within the loft space, as no bats were recorded emerging from or re-entering the building close to the loft space it is concluded these droppings are old (they were very crumbly and pale in colour) and the roost no longer used. It is also a possibility they are from a bat making an exploratory flight into the loft and leaving; as only two droppings were found, and the loft thoroughly searched.
- 5.1.4 Bat activity in the garden was relatively high on the dusk survey although only from a couple of common pipistrelle individuals foraging within the vegetation. Species diversity was very limited with largely only common pipistrelle heard with occasional soprano pipistrelle, noctule and brown long-eared passes.
- 5.1.5 Providing proposed plans remain the same which do not involve any works at the southern end of the north-eastern elevation it is considered the extension works are at a far enough distance to not affect the existing occasionally used roost for one individual soprano pipistrelle bat.
- 5.1.6 Works can therefore lawfully proceed without a licence.



6 Recommendations and Enhancements

6.1 Precautionary Method

- 6.1.1 Due to the presence of a bat roost on site (even though it will not be affected by the works) all contractors will be briefed on the location of the bat roost and bats legal protection explained.
- 6.1.2 All lifted barge board (within the proximity of the works) will be checked with an endoscope by a licenced ecologist immediately prior to the extension works commencing. In the highly unlikely event a bat is discovered, Natural England would need to be contacted and works temporarily stopped.
- 6.1.3 If no bats are discovered beneath the barge board the works can proceed without an ecologist.
- 6.1.4 No lights should be left on during the evenings/early mornings and the existing roost should not be blocked by machinery or site materials.

6.2 Site enhancement

- 6.2.1 To satisfy the planning requirement for enhancing the site post construction and ensure a net gain for biodiversity, enhancement of the site is recommended. It is not considered that a biodiversity impact assessment and metric is required for this project due to it being a simple extension rather than a new development (and no vegetation will be lost). However, if the enhancements below are followed we are confident that the site will achieve a net gain for biodiversity.
- 6.2.2 During the survey's mainly common pipistrelle and soprano pipistrelle bats were recorded commuting over the site.
- 6.2.3 The recommendation is that one woodcrete/woodstone bat box (or an equivalent) will be installed on the northeastern gable end of the new garage. The entrance to the box should have unobstructed access and no direct illumination from external lighting. The box should be installed as high as possible.

6.3 Site Design

Sensitive use of lighting

6.3.1 Increased levels of artificial light can cause disturbance to bats. Though several bat species can take advantage of artificial lighting systems for foraging, feeding off the insects they attract (including the pipistrelle species recorded within the site), other species avoid them as foraging within an illuminated area increases the risk of predation by nocturnal birds of prey or even domestic cats. If lighting is intensive and widespread, particularly lighting from lamps, which

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emit UV light (such as mercury vapour); it can deter some bats from utilising the site and in some instances, can act as a barrier across commuting lines. Research has also shown that certain types of artificial lighting (namely mercury vapour lamps) have been proven to disturb the emergence patterns of bats when they are placed within the vicinity of entrances to a bat roost.

6.3.2 No new lighting is planned however, if plans change and new lights are to be installed on the house; only the minimum light levels required to meet health and safety standards will be used and any new lighting installed will be directed downwards and not illuminate the new bat box or existing roost.

Planting

6.3.3 As a further enhancement to the site certain species of flowers which attract nocturnal insects and therefore bats will be planted within the garden. Species of local provenance and of some benefit to wildlife such as such as night-scented stock (*Matthoila bicornis*) garden phlox (*Phlox paniculata*), honeysuckle (*Lonicera* sp.), sweet rocket (*Hesperis matronalis*), evening primrose (*Oenothera biennis*) wild marjoram (*Origanum vulgare*), English lavender (*Lavandula angustifolia*), sage (*Salvia officinalis*) and thyme (*Thymus vulgaris*) are recommended.



Legislation and Policy

Bats

- 6.3.4 Bats and their roost sites are protected by UK and European legislation.
- 6.3.5 The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:
 - Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for that purpose.
- 6.3.6 Additionally, the Conservation of Habitats and Species Regulations 2017 make it an offence to:
 - Deliberately capture or kill a bat;
 - Deliberately disturb a bat;
 - Damage or destroy a breeding site or a resting place of a bat; and
 - Keep, transport, sell or exchange or offer for sale or exchange alive or dead bat or any part of a bat.

National Planning Policy Framework

- 6.3.7 The National Planning Policy Framework (NPPF) was updated in February 2019 thereby replacing the older version of July 2018. The new framework sets out in section 15 that to protect and enhance biodiversity and geodiversity, plans should:
- 6.3.8 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
- 6.3.9 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.
- 6.3.10 When determining planning applications, local planning authorities should apply the following principles:
- 6.3.11 if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- 6.3.12 development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments),

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should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- 6.3.13 development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- 6.3.14 development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.
- 6.3.15 The following should be given the same protection as habitats sites:
 - potential Special Protection Areas and possible Special Areas of Conservation;
 - listed or proposed Ramsar sites; and
 - sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.
- 6.3.16 The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

Government Circular ODPM 06/2005 Biodiversity and Geological Conservation

- 6.3.17 Paragraph 98 of Government Circular 06/2005 advises that "the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat. Local authorities should consult Natural England before granting planning permission. They should consider attaching appropriate planning conditions or entering into planning obligations under which the developer would take steps to secure the long-term protection of the species. They should also advise developers that they must comply with any statutory species' protection provisions affecting the site concerned..."
- 6.3.18 Paragraph 99 of Government Circular 06/2005 advises that "it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant



material considerations may not have been addressed in making the decision. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted".

Local Planning Policy

6.3.19 This information was taken from the West Oxfordshire District Council Local Plan 2031 (adopted 2018).

Policy EH3: Biodiversity and Geodiversity

The biodiversity of West Oxfordshire shall be protected and enhanced to achieve an overall net gain in biodiversity and minimise impacts on geodiversity, including by:

- giving sites and species of international nature conservation importance and nationally important sites of special scientific interest the highest level of protection from any development that will have an adverse impact;
- requiring a Habitats Regulations Assessment to be undertaken of any development proposal that is likely to have a significant adverse effect, either alone or in combination, on the Oxford Meadows SAC, particularly in relation to air quality and nitrogen oxide emissions and deposition;
- protecting and mitigating for impacts on priority habitats, protected species and priority species,
 both for their importance individually and as part of a wider network;
- avoiding loss, deterioration or harm to locally important wildlife and geological sites and sites supporting irreplaceable habitats (including ancient woodland, Plantations on Ancient Woodland Sites and aged or veteran trees), UK priority habitats and priority species, except in exceptional circumstances where the importance of the development significantly and demonstrably outweighs the harm and the harm can be mitigated through appropriate measures and a net gain in biodiversity is secured;
- ensuring development works towards achieving the aims and objectives of the Conservation Target Areas (CTAs) and Nature Improvement Areas (NIAs);
- promoting the conservation, restoration and re- creation of priority habitats, ecological networks and the protection and recovery of priority species populations, particularly within the CTAs and NIAs;
- taking all opportunities to enhance the biodiversity of the site or the locality, especially where this
 will help deliver networks of biodiversity and green infrastructure and UK priority habitats and
 species targets and meet the aims of CTAs;



- ensuring that all applications that might adversely affect biodiversity are accompanied by adequate ecological survey information in accordance with BS 42020:2013 unless alternative approaches are agreed as being appropriate with the District Council's ecologist;
- all major and minor applications demonstrating a net gain in biodiversity where possible. For major applications this should be demonstrated in a quantifiable way through the use of a Biodiversity Impact Assessment Calculator (BIAC) based on that described in the DEFRA Biodiversity Offsetting guidance or a suitably amended version. For minor applications a BIAC will not usually be required but might be requested at the Council's discretion;
- all development incorporating biodiversity enhancement features.
- All developments will be expected to provide towards the provision of necessary enhancements in areas of biodiversity importance.



References

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Appendix 1 - Photographs

Photograph1: Roost location on north-eastern

elevation



Photograph 2: Southwestern elevation



Photograph 3: Garage internally



Photograph 5: Main area of north-eastern elevation for works taking place



Photograph 4: Garage externally

Photograph 6: Loft space







Appendix 2 – Survey Plan

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Appendix 3 – Site/ Species Value

Table 4 – Valuing bat roosts

Geographic Farm of Reference	Roost Types	
	-Feeding perches (common species)	
	-Individual bats (common species)	
District, Local or Parish	-Small numbers of non-breeding bats (common species)	
	-Mating Sites (common species)	
	-Maternity sites (common species)	
County	-Small numbers of hibernating bats (common and rarer species)	
County	-Feeding perches (rarer/rarest species)	
	-Individual bats (rarer/rarest species)	
	-Small numbers of non-breeding bats (rarer/rarest species)	
	-Mating sites (rarer/rarest species) including well used swarming sites	
Decised	-Maternity sites (rarer species)	
Regional	-Hibernation sites (rarest species)	
	-Significant hibernation sites for rarer/rarest species or all species assemblages	
Netional / IV	-Maternity sites (rarest species)	
National/UK	-Sites meeting SSSI guidelines	
International	-SAC sites	



Appendix 4 – Core Sustenance Zones

Core Sustenance Zones	Species
1 km	Whiskered/Brandt's bat (Myotis mystacinus/brandtii), Bechstein's bat (Myotis bechsteinii)
2 km	Lesser horseshoe (<i>Rhinolophus hipposideros</i>), Daubenton's bat (<i>Myotis daubentonii</i>), common pipistrelle (<i>Pipistrellus pipistrellus</i>)
3 km	Greater horseshoe (<i>Rhinolophus hipposideros</i>), Leisler's bat (<i>Nyctalus leisleri</i>), soprano pipistrelle (<i>Pipistrellus pygmaeus</i>), Nathusius' pipistrelle (<i>Pipistrellus nathusii</i>), brown long-eared bat (<i>Plecotus auritus</i>), grey long-eared bat (<i>Plecotus austriacus</i>)
4 km	Natterer's bat (Myotis nattereri), noctule (Nyctalus noctula), serotine (Eptesicus serotinus)
6 km	Barbastelle (Barbastella barbastellus)

 Table 5 - Adapted from Table 3.5 of the Bat Survey Guidelines (Collins, 2016)



Appendix 5 – Mitigation and Enhancement



Description

Beaumaris Woodstone Bat Box

A durable bat box which is suitable for external walls and provides a roosting space for crevice dwelling bats such as pipistrelles.

https://www.nhbs.com/4/bat-

boxes?q=&fR[hide][0]=false&fR[live][0]=true&fR[sho
ps.id][0]=4&hFR[subjects_equipment.lvl1][0]=Bat%2
0Boxes&qtview=211949



Appendix 6 – Work's area in relation to roost



The roost location is indicated on both drawings by the **red** arrow. All works are restricted to the areas indicated in **blue**. A considerable distance from the roost.



Drawings created by West Oxford Architects.