



Preliminary Roost Assessment

Alston, Norwood Lane, Meopham, Gravesend, DA13 0YF

Danny Dalton

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Danny Dalton to undertake a Preliminary Roost Assessment (PRA) at Alston, Norwood Lane, Meopham, Gravesend, DA13 0YF (hereafter referred to as “the site”). The survey was required to inform a planning application for the two-storey side and front extension, providing a first floor with habitable rooms by raising the roof and the demolition of the adjacent garage (hereafter referred to as “the proposed development”).

The following is work you will need to commission to comply with planning policy and legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 5 of this report.

Feature	Survey Results Summary	Impact Assessment	Recommendations
Roosting bats B1 & B2	B1 and B2 have negligible value for roosting bats due to a lack of potential roost features.	Bats are very unlikely to be roosting within these buildings and as such, there are not anticipated to be any impacts on roosting bats as a result of the demolition and extension to B1 and B2.	The installation of two bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be installed on the building. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. The bat boxes will be a specification suitable for common crevice dwelling bats such as Crevice Bat Box from the Nestbox Company https://www.nestbox.co.uk/products/crevice-bat-box or a similar alternative brand.
Foraging and commuting bats	Adjacent hedgerows and mature trees could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats: Planting of native tree, shrub and hedgerows to increase foraging opportunities.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Danny Dalton to undertake a Preliminary Roost Assessment (PRA) at Alston, Norwood Lane, Meopham, Gravesend, DA13 0YF (hereafter referred to as “the site”). The survey was required to inform a planning application for the two-storey side and front extension, providing a first floor with habitable rooms by raising the roof and the demolition of the adjacent garage (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in **Appendix 1**.

The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging or commuting. This has been undertaken with due consideration to the “Bat Surveys for Professional Ecologists —Good Practice Guidelines” publication (Collins, 2016). No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author’s knowledge, by any other consultancy.

1.2 Site Location and Landscape Context

The site is located at National Grid Reference TQ 64552 67570 and has an area of approximately 0.18ha. The site is surrounded by residential dwellings and their accompanying enclosed gardens. Slightly farther afield in all directions, the landscape transitions to farmland, characterised by arable fields. To the west and southwest of the site, there are expanses of mature deciduous woodland. The site is situated to the north of Meopham town centre and to the south of the River Thames.

1.3 Scope of the Report

This report provides a description of all features suitable for roosting, foraging and commuting bats and evaluates those features in the context of the site and wider environment. It further documents any physical evidence collected or recorded during the site survey that establishes the presence of roosting bats. It provides information on possible constraints to the proposed development as a result of bats and summarises the requirements for any further surveys to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation. To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken, including an inspection of built structures, to determine the presence or the suitability of any features which bats could use for roosting and to assess the suitability of the site’s bat foraging and commuting habitat.
- An outline of potential impacts on any confirmed or unidentified roosts has been provided, based on the proposed development.
- Recommendations for further surveys and mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) application if appropriate.
- Opportunities for the enhancement of the site for roosting, foraging and commuting bats have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a 2km radius review of statutory designated sites with bat qualifying interests and granted EPSL records for bats held on magic.gov.uk database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

2.2 Field Survey

The survey was undertaken by Jamie-Lee Anderson (Accredited Agent on Natural England Bat Licence Number: 2019-41480-CLS-CLS. Class Level 2) on 27th October 2023. The PRA focussed on two built structures which will be affected by the proposed development as well as providing an overview of the wider site and the surrounding landscape for bat roosting, foraging and commuting habitat.

For any surveyed buildings:

A non-intrusive visual appraisal was undertaken from the ground, using binoculars to inspect the external features of the buildings for features which bats could use for roosting, including access or egress points and for signs of bat use including droppings, scratch marks, insect remains and urine smear marks. An internal inspection of the buildings was also made, including the living areas and any accessible roof spaces, using a torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

2.3 Breeding Birds and Other Incidental Observations

The surveyor also made note of any other ecological constraints observed during the survey, notably the likelihood of presence or signs of breeding birds, and the suitability of the site for barn owls.

2.4 Suitability Assessment

Built structures were categorised according to the likelihood of bats being present and the types of roost that the identified features could support. This is summarised in **Table 1** below. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

Table 1: Features of a building that are correlated with use by bats

Classification	Feature of building and its context
High	Buildings or structures with features of particular significance for larger numbers of roosting bats e.g. mines, caves, tunnels, icehouses and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g. river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data).

	Buildings with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Moderate	Buildings or structures with one or more features suitable for more regular roosting due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation value such as maternity or hibernation roosts. Continuous habitat connected to the wider landscape which could be used by bats for commuting such as lines of trees, linked gardens. Foraging habitat in the surrounding area such as trees, scrub, grassland or water.
Low	Buildings or structures with one or more features suitable for use sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities or upwards orientation with exposure to inclement weather or predators. Habitat suitable for foraging in close proximity, but largely isolated in the landscape. Or an isolated site not connected by prominent linear features.
Negligible	Unsuitable for use by bats.

2.5 Limitations

It should be noted that whilst every effort has been made to describe the features on site in the context of their suitability for roosting bats, this does not provide a complete characterisation of the site. This survey provides a preliminary view of the likelihood of bats being present. This is based on suitability of the habitats on site and in the local area, the ecology and biology of bats as currently understood, and the known distribution of bats as recovered during the desk study. Bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time.

A search for historical bat records has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for bats, it is not anticipated that the purchase of historical records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

3.0 Results and Evaluation

3.1 Designated Sites

Details of any statutory designated sites with bat qualifying interests within a 2km radius of the site, including their reasons for notification, are provided in **Table 2** below.

Table 2: Statutory designated sites with bat qualifying interests within 2km radius of the site

Designated site name	Distance from site	Reasons for notification from Natural England
Kent Downs Area of Outstanding Natural Beauty (AONB)	~600m east	The AONB forms the eastern end of a great arc of designated landscape stretching from the East Hampshire and Surrey Hills AONBs. The Kent Downs AONB continues from the Surrey border in a widening ribbon of rolling countryside to meet the sea at the cliffs of Dover. Inland, the Downs rise to over 240m, cresting in a prominent escarpment above the Weald to the south. It is traversed by the three prominent river valleys of the Darent, Medway and Stour. The AONB roughly follows the southeast's outcrop of chalk and greensand, the two ridges running parallel with each other to the coast. The chalk ridge, with its characteristic dip slope and dry valleys, has great wildlife importance in its unimproved chalk grassland, scrub communities and broadleaved woodlands. The well-wooded greensand ridge is particularly prominent in the Sevenoaks and Tonbridge and Malling districts and supports heathlands and acidic woodlands. Other distinctive landscape elements include the fast-disappearing traditional Kentish orchards and hop gardens and the rich wooded foreground of the upland ridges, together with many fine historic parklands including Knole and Winston Churchill's Chartwell. The AONB's ancient settlements include picturesque half-timbered Charing and Chilham on the old Pilgrims Way to Canterbury. Since prehistory, this has been the invasion gateway to England and the North Downs are noted for their archaeological remains and military legacy. A prosperous farming area, its high-grade land is in intense agricultural and horticultural use. The AONB, bordered by large and expanding urban areas including Ashford, Maidstone and the Medway towns, as well as the ports of Dover and Folkestone, has a large commuter population and the North Downs are a heavily used local recreational resource. The area also receives visitor traffic from London and the Kent resorts, and the AONB forms an integral part of tourist promotion of the 'Garden of England'. The North Downs Way National Trail runs along the length of the escarpment and loops up to Canterbury.

3.2 Historical Records

A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed. Displaced bats from licensed sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licensed site. No EPSL records for bats have been returned within 2km of the site.

3.3 Field Survey Results

The weather conditions recorded at the time of the survey are shown in **Table 3**. The results of the field survey are detailed in **Table 4** and illustrated in **Appendix 3**.

Table 3: Weather conditions during the survey

Date:	27/10/2023
Temperature	9.9°C
Humidity	99%
Cloud Cover	100%
Wind	8.9mph
Rain	None

Table 4: PRA Results

Feature	Description	Photographs
Bat foraging and commuting habitat	Onsite habitat, when assessed, reveals suboptimal conditions for foraging and commuting bats, primarily due to the absence of suitable features. However, the adjacent and more distant surroundings offer a more conducive environment, with abundant hedgerows, mature trees, and woodland, all deemed as suitable habitats for foraging and commuting bats.	
B1 – Southern elevation	B1 is a brick-built residential dwelling featuring a pitched and hipped roof clad with clay tiles. The exterior of the building is rendered with pebbledash. There is one main loft space within B1. There are two chimneys present on B1, surrounded by lead flashing. Soffits are wooden. The brickwork is in good condition. Verge and ridge tiles are well-mortared with no gaps or cracks.	

B1 – Western elevation	The soffits of B1 are wooden and sealed. There are no gaps or cracks.	
B1 – Western elevation	The lead flashing is neat and flat around both chimneys. The clay tiles are in good condition, with none missing or cracked.	

B1 – North and northeastern elevations	The clay tiles are in good condition with none missing or cracked. The verge tiles are in good condition and well mortared. There is no missing mortar.	
B1 – Northern elevation	There is a small side extension on the western elevation of B1. The extension has a flat roof which is well sealed.	

B1 – Interior	There is one loft space in B1. The loft space is fully boarded, so the entirety of the space was accessible for surveying. The loft space has two large windows (one on the northern elevation and on the southern elevation as seen in the picture on the right). Plenty of daylight is let into the loft space through these windows. Mineral wool insulation is present underneath the timber boarding. Cobwebs were present on the timber beams and the windows. No evidence of bats was found.	
B1 – Interior	The roof is lined with bitumen which is in good condition, no gaps or tears were found.	
B1 – Suitability assessment	In line with Good Practice Guidelines (Collins, J. (Ed) 2023) B1 is assessed to have ‘negligible’ habitat value for roosting bats due to the absence of suitable roost features.	
B1 – Breeding birds and other incidental observations	None.	

B2 – Eastern elevation	B2 is a small brick-built garage with a flat roof. The exterior of the building is rendered with pebbledash. There is no loft space within B2. The brickwork is in good condition and is well mortared, with no gaps or cracks. The roof is constructed of corrugated metal sheeting with bitumen lining.	
B2 – Southern elevation	B2 has two large wooden doors and is used internally for storage.	

B2 – Interior	The interior of B2 is used for storage. There is no loft space. There are no gaps or cracks in either the roof or the brickwork. Cobwebs were found, but no evidence of bats was seen.	
B2 – Suitability assessment	In line with Good Practice Guidelines (Collins, J. (Ed) 2023) B2 is assessed to have 'negligible' habitat value for roosting bats due to the absence of suitable roost features.	
B2 – Breeding birds and other incidental observations	None.	

4.0 Conclusions, Impacts and Recommendations

Taking the desk study and field survey results into account, **Table 5** presents an evaluation of the value of the site for bats and also details any other ecological constraints identified such as nesting birds in relation to the proposed development.

Table 5: Evaluation of the site for bats and any other ecological constraints

Building	Survey Results Summary	Impact Assessment	Recommendations	Biodiversity Enhancement Opportunities ¹
Roosting bats B1 & B2	B1 and B2 have negligible value for roosting bats due to a lack of potential roost features.	Bats are very unlikely to be roosting within these buildings and as such, there are not anticipated to be any impacts on roosting bats as a result of the demolition and extension to B1 and B2.	The removal of any roof tiles will be done carefully by hand, checking for any signs of bats beneath every tile. In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.	The installation of two bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be installed on the building. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. The bat boxes will be a specification suitable for common crevice dwelling bats such as Crevice Bat Box from the Nestbox Company https://www.nestbox.co.uk/products/crevice-bat-box or a similar alternative brand.
Foraging and commuting bats	Adjacent hedgerows and mature trees could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Light spill on to hedgerows should be avoided. • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats: • Planting of native tree, shrub and hedgerows to increase foraging opportunities.

¹ The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021).

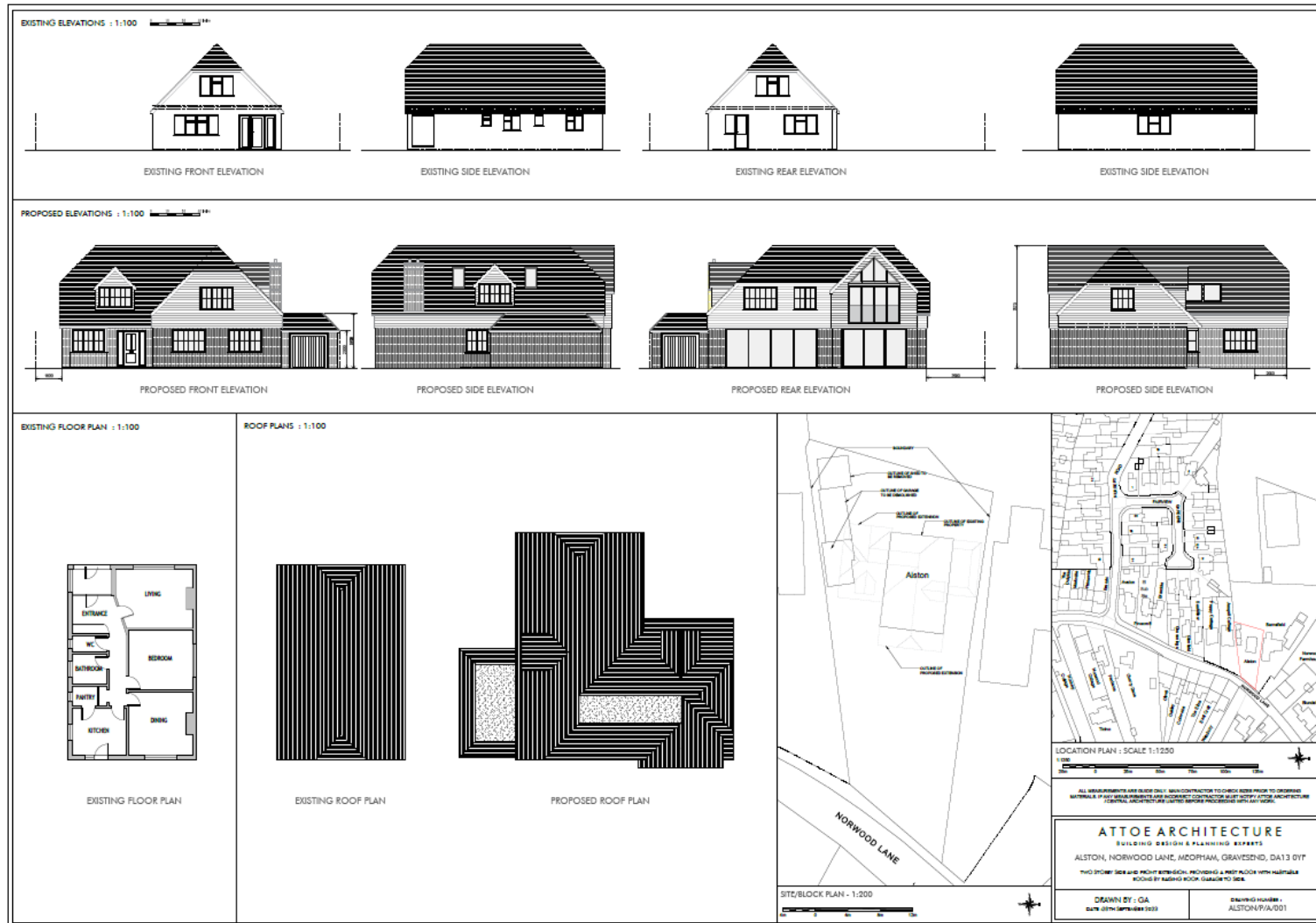
			attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. • Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only. • External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. • Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	
Nesting birds B1 & B2	B1 and B2 do not provide opportunities for nesting birds due to the lack of	None.	None.	The installation of a minimum of two bird boxes on retained buildings will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings)

	access points for nesting.			Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
Other ecological constraints	None identified.	N/A	N/A	N/A

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Appendix 1: Proposed Development Plan

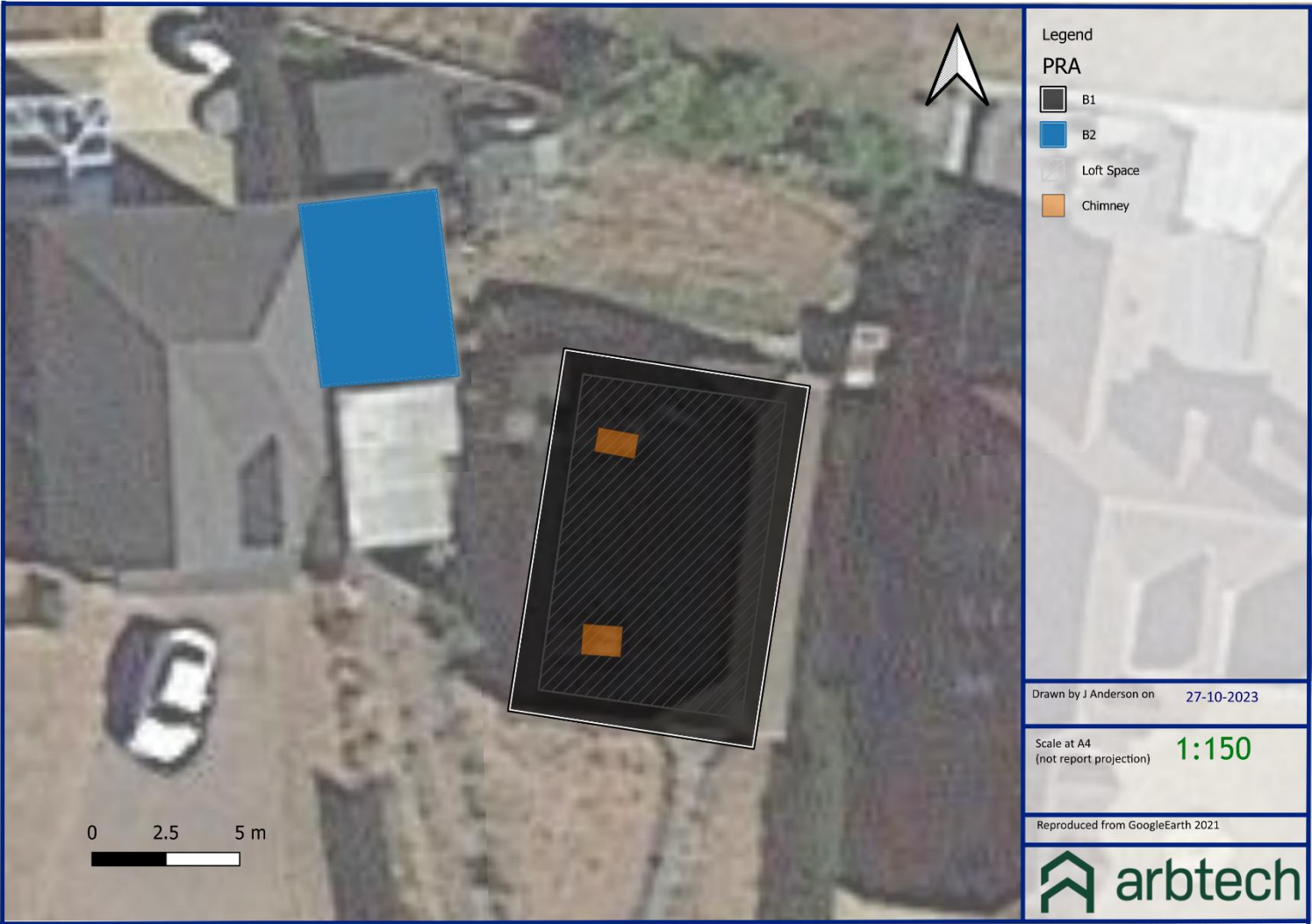




Appendix 2: Site Location Plan



Appendix 3: PRA Plan



Appendix 4: Legislation and Planning Policy Related to Bats

LEGAL PROTECTION

All species of bat are fully protected under ***The Conservation of Habitats and Species Regulations 2017*** (as amended) through their inclusion on Schedule 2.

Regulation 43: Protection of certain wild animals - offences

(1) A person is guilty of an offence if they:

- (a) Deliberately captures, injures or kills any wild animal of a European protected species,
- (b) Deliberately disturbs wild animals of any such species,
- (c) Deliberately takes or destroys the eggs of such an animal, or
- (d) Damages or destroys a breeding site or resting place of such an animal,

(2) For the purposes of paragraph (1) (b), disturbance of animals includes 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) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) To affect significantly the local distribution or abundance of the species to which they belong.

Bats are also protected under the ***Wildlife and Countryside Act 1981*** (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

NATIONAL PLANNING POLICY

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by Natural England will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored. The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008).

There are 17 species of bat breeding in England and Natural England issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

1. include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
2. scientific and educational purposes;

3. ringing or marking; and,
4. conserving wild animals.

Development works fall under the first purpose and Natural England issues bat mitigation licences for developments.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.