BIODIVERSITY ENHANCEMENT PLAN SURVEY & REPORT

at

Land Adjacent to 155
Longwood Road
Huddersfield
West Yorkshire
HD3 4EH

Client:
Northlight Architecture Ltd

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JCA Ref:
22874/GB

Date of Report:
02/06/2025



JCA Limited
Arboricultural & Ecological Consultants

Quality Assurance

JCA ref.	Version	Report Completed		Checked	
		Date	Name	Date	Name
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This report has been prepared and provided in accordance with the *British Standard 42020: Biodiversity – Code of practice for planning and development* and the *CIEEM's Code of Professional Conduct*

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1 Introduction

1.1 Purpose of the Report

1.1.1 JCA Ltd. has been instructed by **Northlight Architecture Ltd** to produce a Biodiversity Enhancement Plan (BEP) for a site located at **Land Adjacent to 155 Longwood Road**, hereafter referred to as 'the site'.

1.2 Terms of Reference

1.2.1 The following reports and plans have been used in the production of the BEP and should be read in conjunction with this report:

- 24.022/(AL)100 – Site Plan as Proposed
- 24.022/ (AL)101 – PLOT 1&2 - House Plans & Elevations
- 24.022/(EX)01 – Site Block & Location Plans as Existing

1.3 Scope of the Report

1.3.1 This report is compiled in accordance with guidance outlined in the *National Planning Policy Framework* (NPPF) so that the development considers the value of ecosystem services and enhance ecological networks.

1.4 Details of Proposed Development

1.4.1 The development proposed at this site is for the construction of two residential properties and associated access and landscaping.

1.5 Site Description

1.5.1 **Land Adjacent to 155 Longwood Road** is situated 2.4km east of Huddersfield, at grid reference: **SE 12047 16318**.

1.5.2 The site is surrounded by predominantly urban residential properties, with an area of woodland to the south of the site.

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2. Faunal Boxes

2.1 Summary

2.1.1 In total **2** bat bricks/boxes, **4** bird boxes, **2** hedgehog shelters and **2** insect boxes have been recommended. The location of each faunal box to be erected can be seen in **Appendix 1**.

2.2 Bat Roosting Opportunities

2.2.1 All British bat species are protected by both UK and EU legislation. This is in response to the declines experienced by many bat species over the past century. The cause of the decline could be linked to a number of factors, including habitat loss, pesticide over-use, habitat fragmentation, loss of roost sites and roost disturbance.

2.2.2 All bat species are European Protected Species (EPS) under **Schedule 2** of the **Conservation of Habitats and Species Regulations (CHSR) 2017** (retained in UK law by **CHSR (Amendment) (EU Exit) 2019**), with additional protections under **Schedules 5 and 6** of the **Wildlife & Countryside Act (WCA) 1981 (as amended)**. Additionally, six species (including soprano pipistrelles and noctules) are priority species under **Section 41** (**S41**) of the **Natural Environment & Rural Communities (NERC) Act 2006**, designating them as species of principal importance for the purpose of conserving biodiversity.

2.2.3 Box Selection & Positioning: There is a wide range of different bat boxes available, including both internal and external designs. External designs include the traditional wooden and woodcrete boxes. Internal designs include boxes that can be built into the walls, with a front that mimics the brickwork of the building, essentially becoming invisible. Other roost opportunities include cutting slots into soffit boxes, using bat bricks that lead into cavity walls and using lifted tiles to allow access into the loft.

2.2.4 **Bat bricks** have been selected to incorporate into each new building. The bricks are positioned high on the walls of the building, and the gap within the brick is only a few centimetres wide. These gaps are often overlooked by residents and so should not cause conflict with buyers. Bat bricks should be placed under the eaves at the apex of the south facing gable end walls. These bricks will then allow bats to access the cavity wall spaces.

2.2.5 **Bat Boxes** should be positioned at least 5m high, in groups of three, with their front facing north, southwest or southeast (as recommended by the BCT). This will allow each box to gain a different amount of warmth from the sun, creating a range of different environmental conditions for bats to choose from. The selected boxes should be constructed of woodcrete or similar in order increase their life expectancy. A range of different designs should be selected in order to increase the likelihood of bats roosting within the site.

2.2.6 Where lighting is required, conditions should be imposed to ensure the impact of the lighting on the bats is kept to a minimum. Lighting will be situated away from areas of

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both retained and new trees and shrubs. Any lighting should be of a low level of luminance. The use of low pressure sodium lamps or high pressure sodium lamps is recommended instead of mercury or metal halide lamps. Overall levels on site should be as low as planning permits. Lighting column height near hedgerows or trees should be kept to a minimum as this reduces the ecological impact. Where lighting can be directed downwards at a more acute angle, taller columns can be used. Please refer to the Bat Conservation Trust's Bats and Lighting in the UK (2009).

Table 1: Bat roosting opportunities to be installed as part of the Proposed Development.

Bat Brick/Box	Number to be Installed	Description	Details
Ibstock Enclosed Bat Box 'C' (or a comparable design) 	1 (on the proposed building)	The Enclosed Bat Box 'C' from Ibstock is designed for the pipistrelle bat. It is ideal for new builds as it can be integrated directly into the brickwork to produce a discrete but attractive home for bats. The inside of the box is designed to create several roosting zones which are ideal for crevice dwelling bats. The bottom entrance means that no maintenance is required as droppings will simply fall out the bottom. This Ibstock Bat Box C is available in two sizes and three colours (red, blue or cream). The box is both durable and fully frost resistant.	Dimensions <u>Large Box</u> Height: 290mm Width: 215mm Depth: 105mm Weight: 9.2kg
1FF Schwegler Bat Box (or a comparable design) 	1 (on the proposed building if integrated brick not feasible)	The Schwegler 1FF bat box is spacious enough for bats to use as a summer roost or nursery site, and the inner dimensions of the 1FF have a reducing width making it ideal for bat species which inhabit crevices such as pipistrelle and noctule bats. The bat box is also open at the bottom allowing droppings to fall out, so it does not need cleaning. The 1FF is, therefore, especially suitable for hanging in inaccessible places such as high in trees, or on steep slopes and house walls. The 1FF bat box can be sited in trees or on buildings and is best positioned at a height of between 4m and 6m.	Dimensions Height: 430mm Width: 270mm Depth: 140mm Weight: 9.5kg

2.2.7 The integrated box above is the preferred option but if this is not feasible due to the stage in construction then the external box is to be used.

2.2.8 The bat boxes will need to be as high up on the walls as they can be and as far from windows as is feasible.

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2.3 Bird Boxes

2.3.1 In the UK there are approximately 600 species of bird, each occupying a different habitat and present in a different region of the country. A small number of these regularly visit gardens and will quickly adopt new nest boxes, but only when the right box design is selected and situated correctly. Each species prefers a specific nest box design, with different dimensions and hole sizes.

Table 2: Bird nesting opportunities to be installed as part of the Proposed Development.

Bird Box	Number to be Installed	Description	Details
WoodStone Build-in Swift Nest Box (or comparable design) 	1 (on each building)	Swifts in the UK have been declining rapidly over the past decades. It is thought that the destruction of suitable nesting habitat is a core reason for this decline, and many councils are now advising swift bricks to be used in new-builds and renovations. This build-in nest box is designed to be integrated into the cavity of a building. It is constructed from long lasting FSC certified WoodStone with a plywood backing. This nest box should be sited at least 5m high, with a clear flight path and avoid south facing sites.	Dimensions: Height: 18cm Width: 42cm Depth: 15.5cm
Vivara Pro WoodStone Swift Nest Box (or comparable design) 	1 (on each building)	Swifts in the UK have been declining rapidly over the past decades and it is thought that the destruction of suitable nesting habitat is a core reason for this decline. Installing a swift box is a great way to help these birds and to ensure their continued presence in our surroundings. The FSC certified woodstone swift nest box is constructed entirely out of woodstone meaning it is long lasting and will not rot away like a traditional wooden nest box. There is an opening at the back of the box for easy cleaning with the nest entrance on the underside of the box. This type of entrance is preferred by swifts but discourages house sparrows and starlings from occupying the box. This box should be installed at least 5m above the ground, ensuring that there is unobstructed access for birds entering and leaving. If possible, boxes should be sited under the shelter of eaves or overhanging roofs.	Dimensions Length: 245mm Width: 380mm Depth: 265mm Weight: 600g

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Vivara Pro WoodStone House Martin Nest, Double Nest (or comparable design) 	1 (on each building)	These WoodStone house martin nests have been specially designed to appeal to house martins and are constructed from WoodStone, a mixture of wood fibres and concrete that is durable and provides great thermal properties for the growing nestlings. The backing to the nests is also WoodStone, making them very durable. These nests should be sited underneath the eaves on exterior walls of your house or outbuildings, at a minimum height of 2m above the ground.	Dimensions Height: 120mm Width: 380mm Depth: 150mm Weight: 3.6kg

2.3.2 For the above boxes, the integrated swift box and then 1 of the external boxes are preferred. However, two of the external boxes can be used if it is no longer feasible to use the integrated one.

2.3.3 The bird boxes should be as high up as they can be and as far away as possible from windows.

2.4 Insect Boxes

2.4.1 Insects are the primary food source for many of the rare or protected animals that regularly visit gardens. Thus encouraging insects into a site will then attract their predators, such as birds and bats.

2.4.2 Many insect species will hibernate over winter in their adult state, such as butterflies, ladybirds and lacewings. In nature, these insects would hibernate within features such as leaf litter or other plant debris. However, gardeners tend to over-maintain their gardens, often tidying these features away in the autumn. Therefore, these species can be encouraged to stay at the site all year round by erecting suitably designed boxes (Kirby 2003).

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2.4.3 In total, **2** insect towers are to be installed. **1** tower should be placed on fences or walls between 0.5 to 2m, in a sheltered position (see **Appendix 1**) in each garden.



Figure 1: Example of an Insect Tower (can be purchased or created through own design).

2.5 Hedgehog shelter

2.5.1 Hedgehog numbers have declined by 90% over the past 50 years due to a number of factors including habitat loss, fragmentation and parasites. Providing shelter and a means of dispersal in gardens will encourage hedgehogs to visit the site and utilise the natural space.

2.5.2 Hedgehog shelters are simple to construct. Situate in a quiet corner of a garden, preferably under vegetation. Dried leaves or hay are placed inside for bedding (Bunnell, 2014).

2.5.3 In total, **2** hedgehog shelters are to be installed. **1** hedgehog shelter should be placed in each garden in a sheltered position (see **Appendix 1**).

2.5.4 Access to gardens has become increasingly limited for hedgehogs, as fences and walls block their dispersal. A simple solution is to create a 13x13cm access hole at ground level into fences in each garden to allow hedgehogs to freely move between green spaces (Bunnell 2014).

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Figure 2: Example of hedgehog shelter *in-situ.*

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3. Conclusion

3.1 Faunal Boxes

3.1.1 **2** bat bricks/boxes will be positioned around the site, within the new buildings. **4** bird boxes including designs aimed at supporting House Sparrows, Swifts, Robins, Blackbirds and Wrens will be erected onto the proposed buildings and fences. **2** mixed insect boxes aimed at attracting Butterflies, Ladybirds and Lacewings will be erected onto proposed rear garden fences. Finally, **2** hedgehog shelters have been recommended. The recommended location of each faunal box can be seen in **Appendix 1**.

3.2 Management and monitoring

3.2.1 Monitoring of faunal boxes and wildlife features over a 5 year period is recommended. Monitoring is key to understanding how habitat and wildlife features are being used by wildlife on site after the development. Without monitoring, and effective and adaptive management a scheme cannot be maintained and revised.

3.2.2 It is recommended that a full management plan is created to inform people what is required on site to maintain biodiversity. Management plans can also be useful at later stages for fund bidding, by demonstrating that the proposed actions are a product of a logical decision-making process.

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4. References

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Bat Survey Guidelines: Good Practice Guidelines (2007). Bat Conservation Trust (BCT).

Bat Workers Manual (3rd Edition 2004). A. J. Mitchell-Jones & A. P. McLeish. Joint Nature Conservation Committee (JNCC).

Bunnell, T. (2014) *The disappearing Hedgehog*. United Kingdom: Independent Publishing Network.

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Perrow, M.R. (2008) *Handbook of ecological restoration: Volume 1, principles of restoration: V. 1: Principles of restoration*. Edited by Martin R. Perrow and Anthony J. Davy. Cambridge, United Kingdom: Cambridge University Press.

Websites:

Bat Conservation Trust (BCT). <http://www.bats.org.uk/>

Google Maps. **<**http://maps.google.co.uk/**>**

Multiple-Agency Geographic Information for the Countryside (MAGIC). <http://www.magic.gov.uk/>

National Biodiversity Network (NBN) Gateway. <data.nbn.org.uk>

Natural England. < http://www.naturalengland.org.uk/>

Nature on the Map. Natural England. <www.natureonthemap.org.uk>

Relevant Legislation:

Wildlife and Countryside Act 1981 <http://jncc.defra.gov.uk/page-3614>

Conservation (Natural Habitats, &c.) Regulations 1994 (The Habitats Directive) (Amended 2010) <http://www.legislation.gov.uk/uksi/2010/490/contents/made>

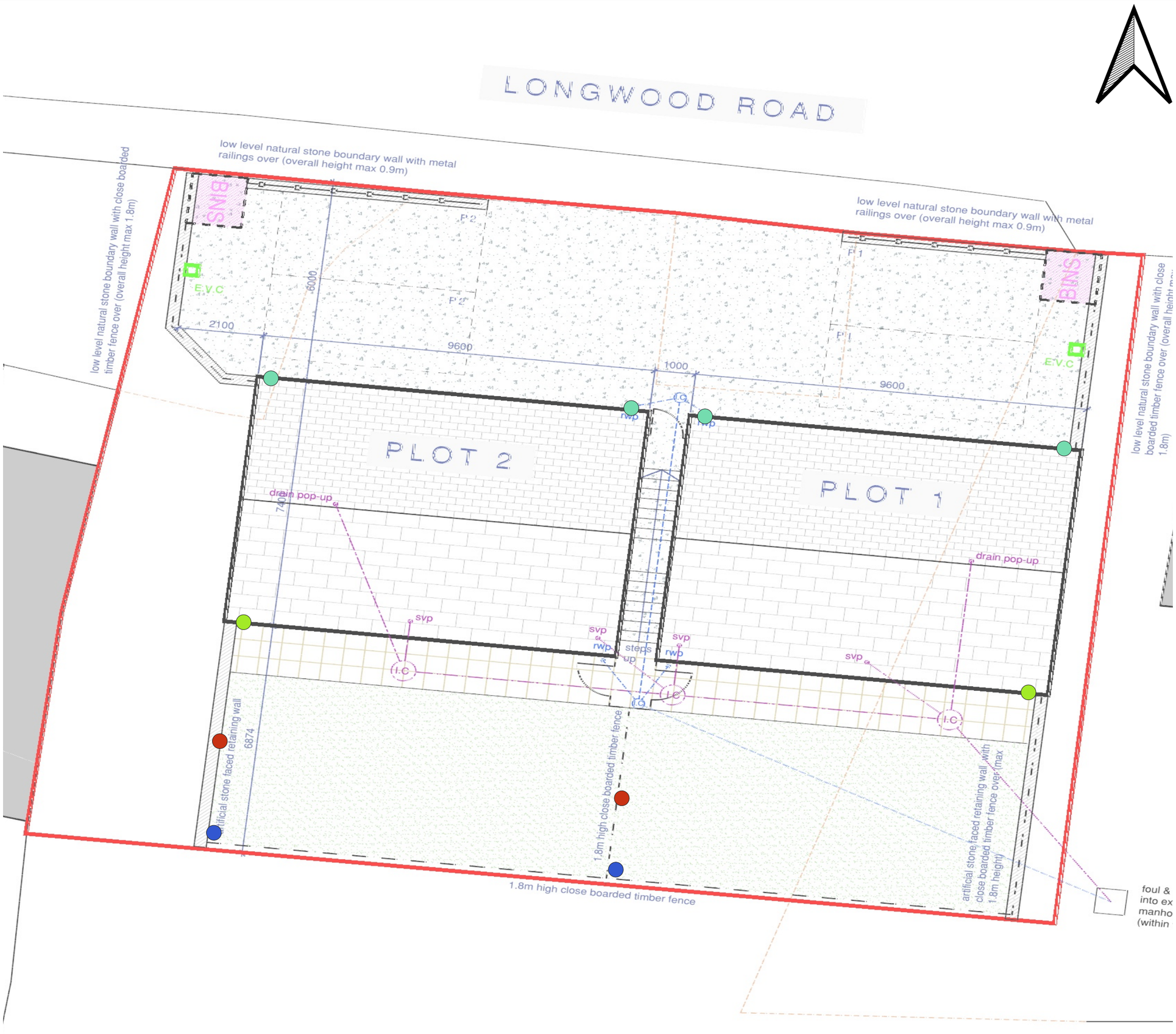
Countryside and Rights of Way Act 2000 <http://www.legislation.gov.uk/ukpga/2000/37/pdfs/ukpga_20000037_en.pdf?view=interweave>

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Appendices

Appendix 1: Faunal Boxes Plan

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Site name & address

Land Adjacent to 155 Longwood Road
Paddock
HD3 4EH

Key

Boxes

- Bat
- Bird
- Hedgehog
- Insect

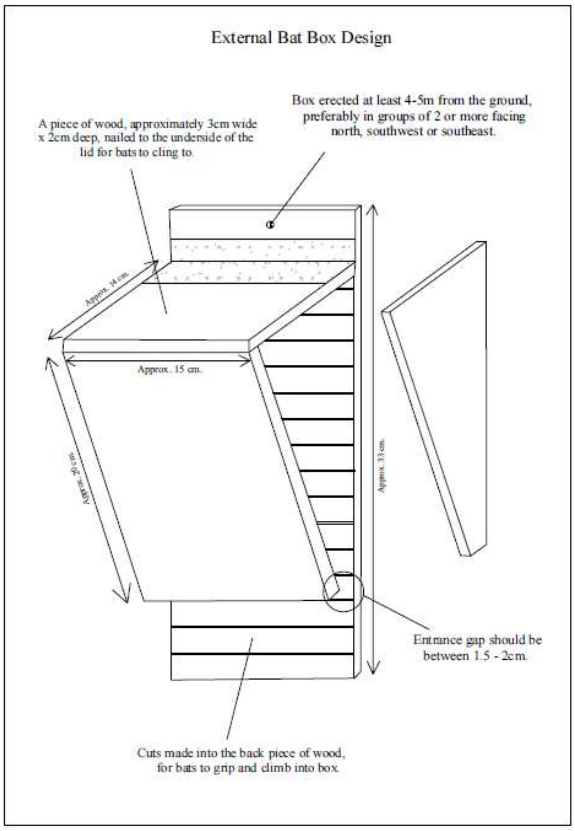
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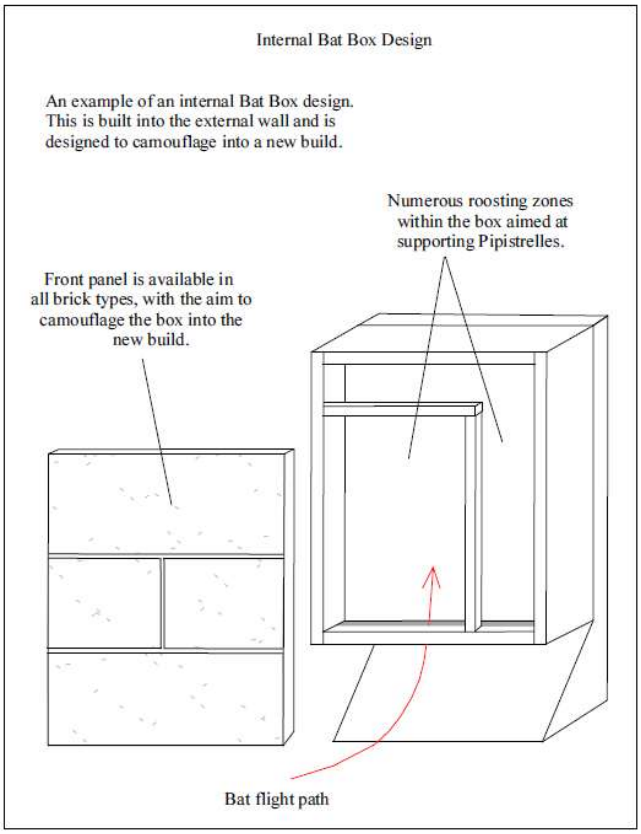
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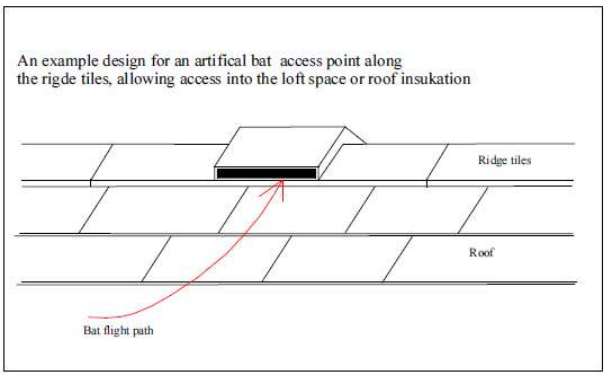
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Land adjacent to 155 Longwood Road	Northlight Architecture Ltd
Project	**Author**
22874 BEP	Grace Bramley
Plan ref	**Revision**
24-022/(AL)100	01

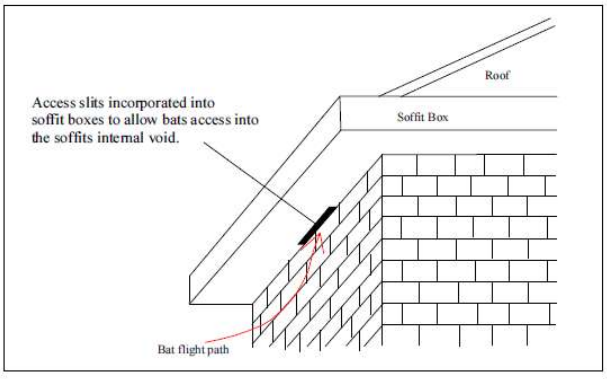
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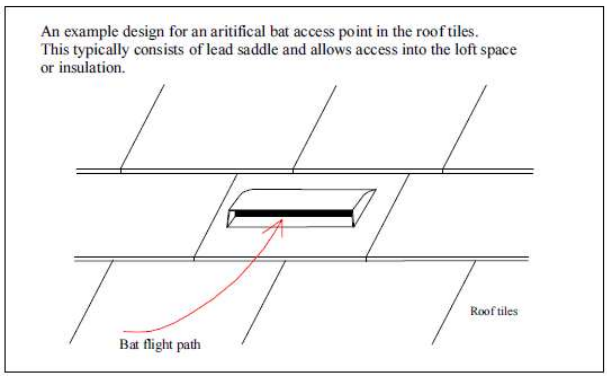
Appendix 2: Examples Artificial Bat Box Designs

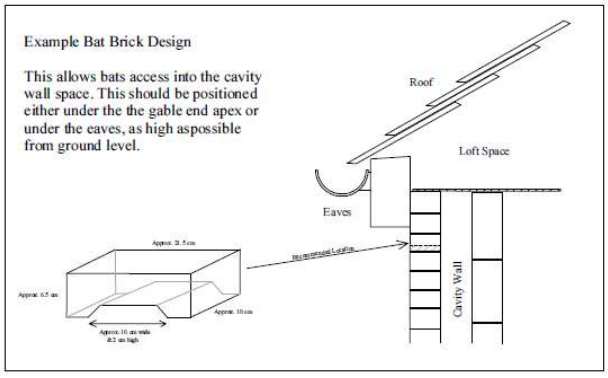








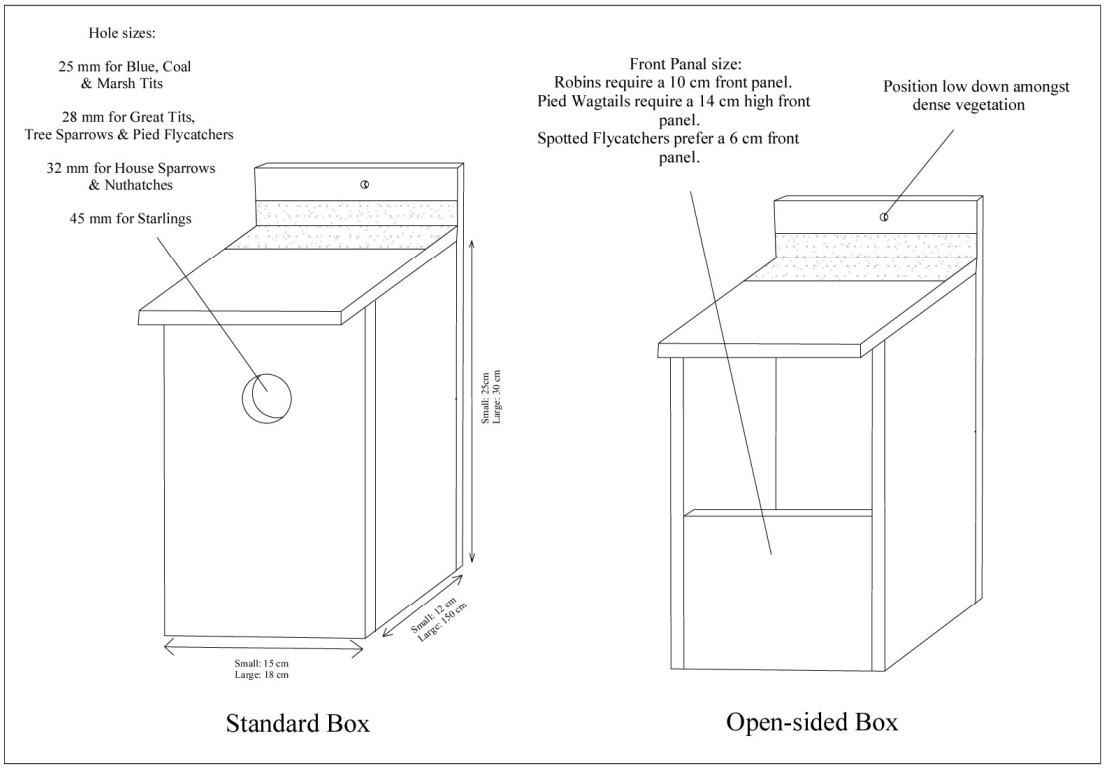




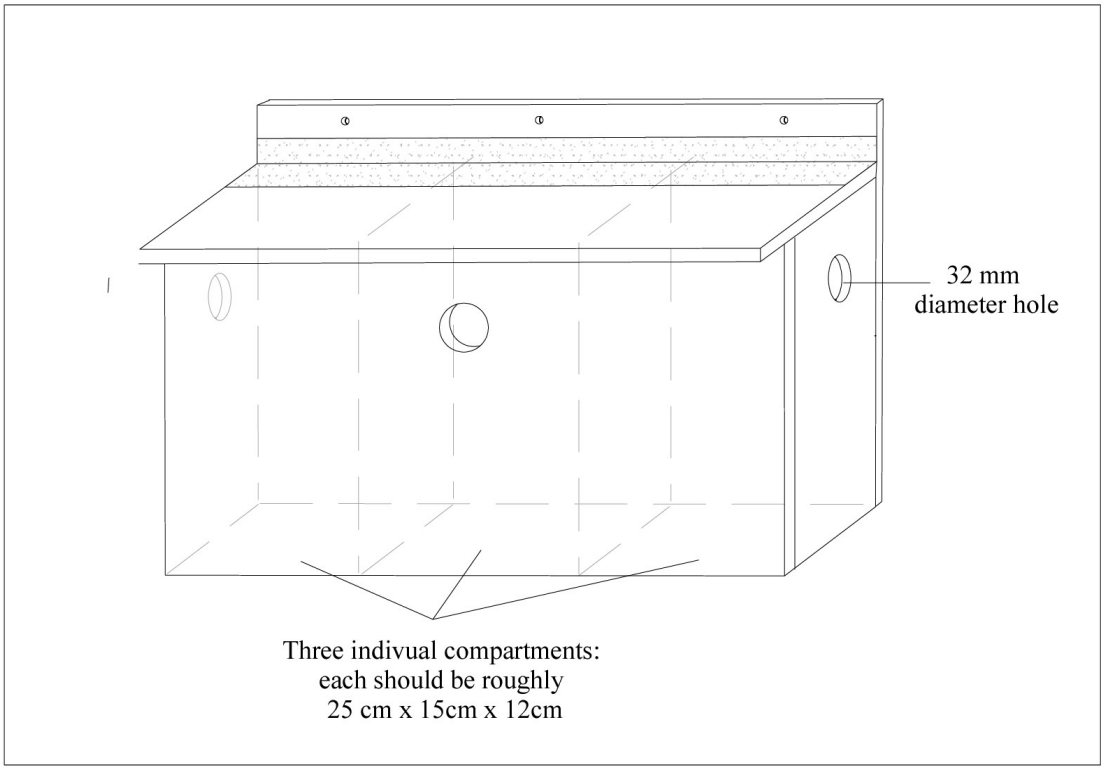
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Appendix 3: Examples Artificial Bird Box Designs

An example of two different bird box designs



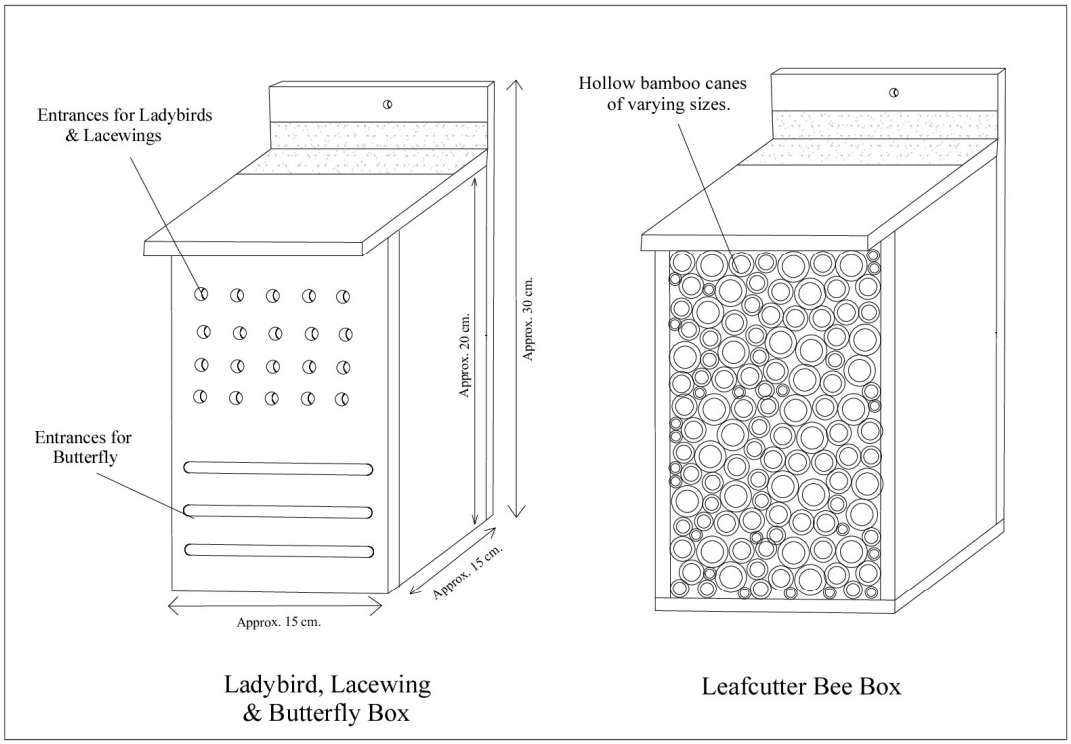
An example of a House sparrow box design



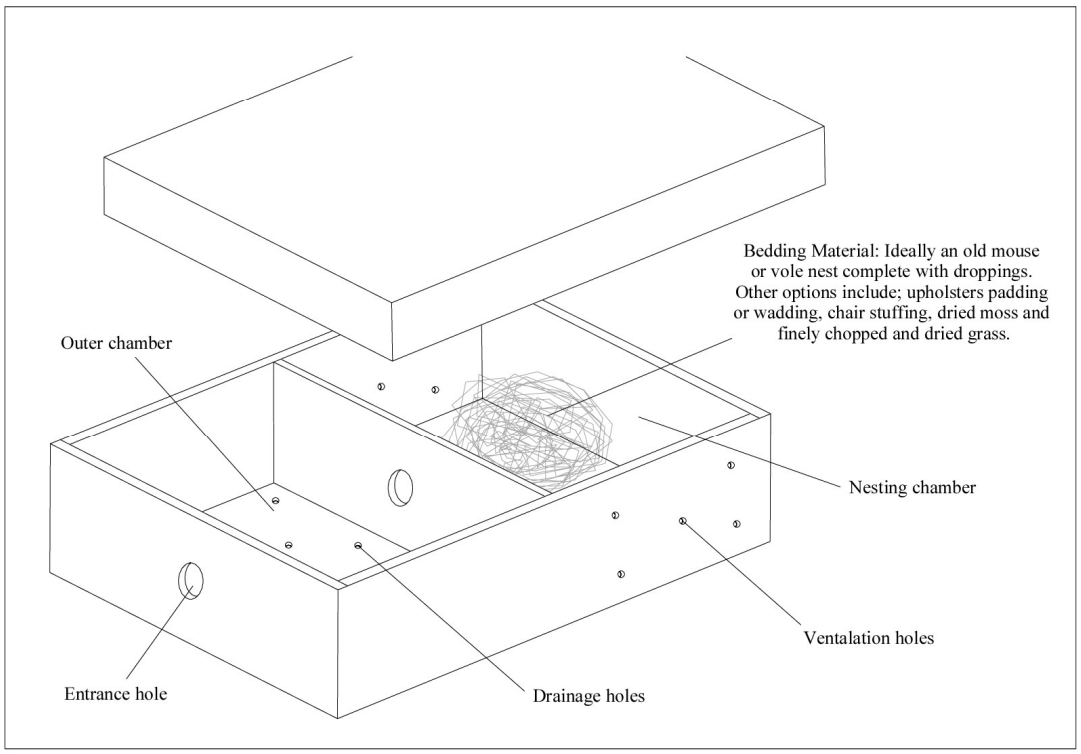
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Appendix 4: Examples of Insect Shelter Designs

An example of two different insect box designs

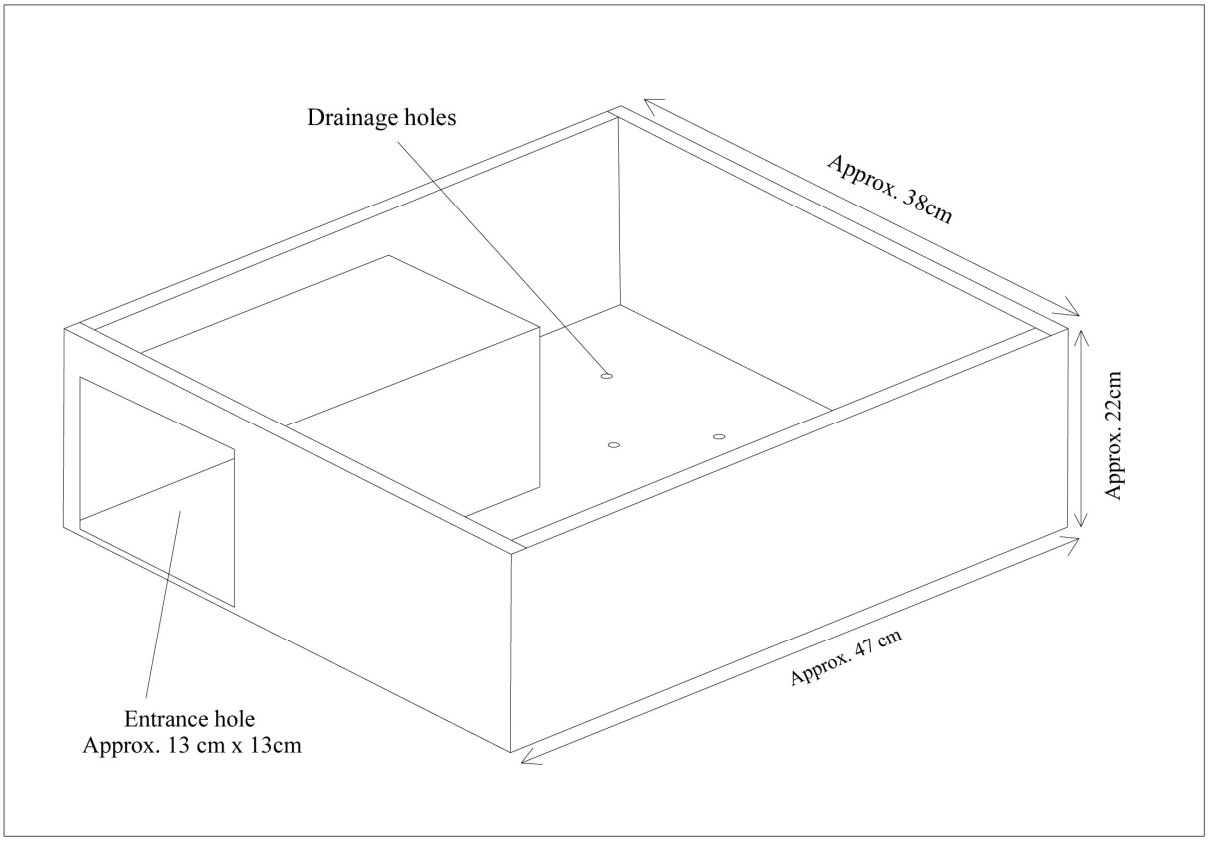


An example of a Bumblebee box design



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Appendix 5: Example of Hedgehog Shelter Design



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Appendix 6: Author Qualifications

Adam West, Principal Ecologist

BSc (Hons) Animal and Wildlife Management, ACIEEM.

Adam joined JCA to lead the expanding ecology department. Having returned to education as a mature student, Adam studied Countryside Management for two years before undertaking a Batchelor's degree in Animal and Wildlife Management, for which he was awarded First Class Honours. Adam has many years' experience in ecological consultancy, working on projects ranging from individual planning applications to national infrastructure projects. Adam holds a Natural England Level 1 great crested newt survey class licence and a Natural England Level 2 bat survey class licence.

Alex Donovan, Assistant Ecologist

MBiol BSc (Hons) Biology (Industrial)

Alex joined JCA in 2023 after graduating from the University of Leeds with a First Class Honours Integrated Master's degree in Biology, including an industrial placement year working in the Uplands Research Department of the Game and Wildlife Conservation Trust. Alex is a CIEEM Qualifying Member, and a member of the BTO's Bird Ringing Scheme and Nest Record Scheme. Alex holds a Natural England barn owl survey licence, and is working towards additional survey licences for bats, great crested newts, and white-clawed crayfish.

Grace Bramley, Graduate Ecologist

BSc (Hons) Design and Innovation with Environmental Science

Grace joined JCA in 2024 after completing her degree from The Open University with a first-class honour's degree in design and environmental science. Prior to this she spent six years working in the automotive industry followed by three years in the chemical industry. She is conducting Preliminary Ecological Appraisal and Biodiversity Net Gain Assessments and working towards her protected species licenses.

Richard Westwood, Graduate Ecologist

BA (Hons) History and Politics

Rick gained his undergraduate degree in History and Politics in 2001 from Leeds Metropolitan University before going on to complete a PGCE in History at the University of Leeds in 2003. After 18 years in secondary education and the NHS, Rick began assisting on bat emergence surveys in 2023, after which, he gained employment as a Graduate Ecologist at JCA Ltd.

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I hope that this scheme and methodology provides all the necessary information, but should any further advice be needed please do not hesitate to contact the author.

Signed



.....

Grace Bramley, *BSc (Hons)*

20/05/2025

Reviewed by



.....

Richard Westwood, BA (Hons)

23/05/2025

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Alex Donovan *MBIOL BSc (Hons)*

27/05/2025

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ECOLOGICAL SERVICES

Ecological Pre-Planning Services

- Phase 1 Habitat Surveys
- Great Crested Newt eDNA Sampling
- Protected species: Bat, Wintering and Nesting Bird, Badger, Amphibian, Otter, Water Vole, White-Clawed Crayfish, Dormice and Reptile Surveys.
- Preparation for Environmental Impact Assessment (EIA)
- Invasive Species Surveys
- Code for Sustainable Homes
- Butterfly & Insect Surveys

Ecological Post-Planning Services

- Biodiversity Enhancement Plans
- Protected Species Mitigation
- Ecological Management (Bat and Bird box installation and inspection)
- Planting Schemes
- Monitoring of bird or bat boxes.

ARBORICULTURAL SERVICES

Guidance for Architects & Developers

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- Arboricultural Implications Assessments (AIA)
- Arboricultural Method Statements (AMS)

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- Tree Surveys for Subsidence
- Heave Assessment
- Tree Root Identification

Advice for Local Authorities and Social Housing

- Tree Safety Surveys
- Specialist Decay Detection
- Landscape and Orchard Design

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- Subsidence Litigation
- Personal Injury and Accident Investigation
- Expert Witness, Planning Inquiries and Appeals

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- Ancient Woodland Management
- Veteran Tree Management

Tree Health and Pest and Disease Management

- Pest and Disease Surveys
- Tree Health Checks
- Disease Mitigation and Control



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