

**The Sun Inn
16 Castle Street
Reading
RG1 7RD**

Ecological Impact Assessment

LUS Ecology
On behalf of
Brasserie Bar Co

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Lus



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Chapter 1: Summary

- 1.1 This report sets out an Ecological Impact Assessment of The Sun Inn, 16 Castle Street, Reading, RG1 7RD. A planning application for the extension and conversion of a rear barn building at The Sun Inn, 16 Castle Street, Reading, RG1 7RD has been submitted to Reading Borough Council. The majority of the Main Pub building will be subject to internal decorative works only and is not the subject of the planning application. However, a flat roofed extension and the addition of two new roof lights will be installed.
- 1.2 An Extended Phase 1 Habitat Survey was undertaken on 03/04/23, along with a full desktop data search. The Extended Phase 1 Habitat Survey was expanded to include:
 - A visual survey for badgers.
 - A Preliminary Roost Assessment of the buildings within the Site to determine their suitability to support bat roosts.
 - A Ground Level Assessment of trees within the Site to support roosting bats.
- 1.3 The data search and surveys confirmed the following:
 - No evidence of bats was recorded within the Main Pub or Barn.
 - The Main Pub and Barn were suitable for roosting bats.
 - Birds may use the buildings and vegetation within the Site to nest.
 - No other protected, notable, or priority species are likely to use the Site.
- 1.4 Two Bat Emergence Surveys have been completed in relation to:
 - The Barn building being of Moderate Suitability to support roosting bats and subject to extension and conversion.
 - The Main Pub being of High Suitability to support roosting bats, with only two areas impacted by the works.
- 1.5 The Bat Emergence Surveys confirmed that bat roosts were not present within the barn or surveyed areas of the main pub. Given the low levels of activity, lack of bat activity within the vicinity of the building, and lack of roosting behaviour, no further survey work is required. The bat activity was limited to bats flying from adjacent areas to the north and northeast and over the courtyard of the Site. Species recorded were limited to common pipistrelle and a *Nyctalus* species.
- 1.6 The existing roof of the Barn will be removed, and the tiles re-used. This process will ensure that the building is subject to dismantlement as opposed to demolition, which will act as a final safeguard in the event that a bat roost is present. The insertion of the two sky lights into the Main Pub roof will retain the majority of the tiling *in situ*. The proposed flat roof extension will tie into existing walls beneath the existing tiling and will not be impacted the eaves or rooves of the Main Pub.
- 1.7 The habitats within the Site are inherently of Negligible Importance. The Proposed Development includes new planting areas, trees, potted shrubs, and climbing plants. Ecological Enhancements have been set out within this report and committed to by the applicant.

- 1.8 The implementation of the requirements within this report will ensure that there are no significant impacts upon protected sites, habitats, and species, ensuring that the Proposed Development will be in conformity with relevant legislation and policy.
- 1.9 Based on the results from the survey, context of the Site, and overall low ecological importance of the Site, this report is valid for a period of 18 months (i.e., the 06/12/2024).

Chapter 2: Introduction

- 2.1 This report sets out an Ecological Impact Assessment (EclA) of The Sun Inn, 16 Castle Street, Reading, RG1 7RD (hereafter referred to as 'the Site'), along with the client's ecological commitments in relation the Site.

Site Description

- 2.2 The aerial image of the Site (**Figure 1**) shows the Site to consist of an existing commercial plot, within Reading town centre. The Site comprises a formally used Pub (**Main Pub**) with a rear barn attached to the northern elevation (**Barn**). The remainder of the commercial plot comprises a paved seating area and a tarmac car park. The Site is accessed via Castle Street to south.



Figure 1. Aerial image of the Site (red line shows the Site boundary)¹

Proposed Development

- 2.3 A planning application for the conversion and extension of the rear **Barn** has been submitted to Reading Borough Council (hereafter referred to as the Proposed Development). The existing roof of the **Barn** will be removed, works undertaken and the tiles re-used on the new roof. The majority of the **Main Pub** building will be subject to internal decorative works only and is not the subject of the planning application. However, a flat roofed extension and the addition of two new roof lights will be installed, which will impact the areas of the **Main Pub**. **Figure 2** shows the Proposed Development.

¹ Image used under licence (©2023 Google); Accessed: 25/04/23.

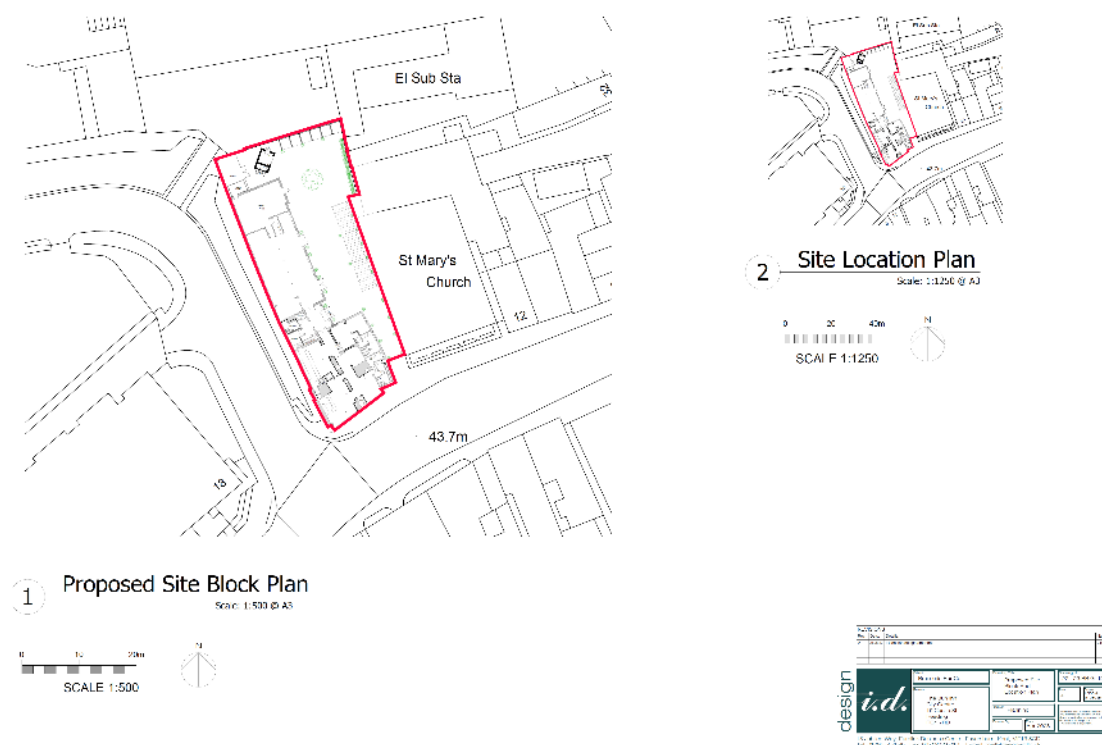


Figure 2. The Proposed Development

Purpose of this report

2.4 The purpose of this EclA is to provide sufficient information for the Local Planning Authority to fully assess and understand the ecological outcomes of the Proposed Development. The key objectives of this EclA are to:

- Outline the planning, legal, and landscape context of the Site.
- Ascertain the ecological importance of the Site by identifying and assessing the main habitats and plant communities within the Site and determining the presence/likely absence of protected species within the Site.
- Characterise and assess the ecological impacts/likely ecological impacts of the Proposed Development on the ecological importance of the Site.
- Follow the Mitigation Hierarchy to:
 - Demonstrate, how the design of the Proposed Development has been shaped and revised since inception to minimise ecological impacts/likely ecological impacts (avoidance).
 - Demonstrate the Proposed Development's commitment to mitigation, compensation, offsetting, and enhancement in relation to protected and priority habitats and protected, priority and notable species.
- Outline the requirements for future monitoring of ecological receptors, impacted/likely impacted by the Proposed Development.

Chapter 3: Method

- 3.1 This report was written with regard to the CIEEM Guidelines on: Ecological Report Writing², Preliminary Ecological Appraisal³ and Ecological Impact Assessment⁴, as well as the British Standard on the Biodiversity Code of Practice for Planning and Development Biodiversity⁵ and Writing Effective Ecological Reports⁶.

Zone of Influence

- 3.2 The ecological impacts / likely ecological impacts of the Proposed Development will be largely confined to the construction zone within the Site itself and would include the loss, degradation and fragmentation of habitats, along with ecological impacts (e.g., killing and injury) on protected, priority and notable species, including the loss of ecological functions such as (commuting, hibernation, breeding opportunities). In addition, consideration has been given to the disruption of species/species populations within receiving range of dust, light, noise and pollution during demolition, construction, and occupation of the Proposed Development.
- 3.3 The surveys of the Site and search buffers used within the data search are sufficient to capture the full extent of the Zone of Influence (ZoI) of the Proposed Development.

Data Search

- 3.4 A review of existing ecological knowledge of a Site and its surrounding area was undertaken on 25/04/23. The data search included the following:
- A 5km radius around the Site for statutory designated sites⁷.
 - A 1km radius around the Site for granted European Protected Species Licences (EPSL)⁷.
 - A 1km review of the habitats within the local landscape, habitat designations, and their suitability to support protected and notable species using Aerial Imagery⁸.
 - A 1km data search for protected, notable, and priority species, as well as non-statutory designated sites⁹.

Field Surveys

- 3.5 The following surveys were undertaken at the Site:
- Extended Phase 1 Habitat Survey¹⁰ (03/04/23, Greg Nightingale).

² CIEEM (2015). *Guidelines on Ecological Report Writing*. Chartered Institute for Ecology and Environmental Management, Winchester.

³ CIEEM (2017). *Guidelines for Preliminary Ecological Appraisal. 2nd Edition*. Chartered Institute for Ecology and Environmental Management, Winchester.

⁴ CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, and Coastal and Marine*. Chartered Institute for Ecology and Environmental Management, Winchester.

⁵ BSI (2013). BS 42020:2013: *Biodiversity: Code of Practice for Planning and Development*. British Standards Institution, Bristol.

⁶ Dean M. (2021). *Writing Effective Ecological Reports: A Guide to Principles and Practice*. Pelagic Publishing, Exeter.

⁷ Multi-Agency Geographic Information for the Countryside (MAGIC) maps For England and Wales. Available online at: <https://magic.defra.gov.uk/home.htm>

⁸ Google Earth. Available online at: <https://earth.google.com/web/>

⁹ Received from Thames Valley Environmental Records Centre on 03/04/23.

¹⁰ JNCC (2010). *Handbook for Phase 1 habitat survey - a technique for environmental audit*. Joint Nature Conservation Committee, Peterborough.

- Badger *Meles meles* - Visual Survey¹¹; (03/04/23, Greg Nightingale).
- Bats – Preliminary Roost Assessment (PRA; 03/04/23, Greg Nightingale).
- Bats – Ground Level Assessment, (GLA; 03/04/23, Greg Nightingale).
- Bats – Bat Emergence Surveys (09/05/23 and 06/06/23, Greg Nightingale, Mungo Nash, Tilly Edwards, Alex Holden, and Rich Steele).
- Incidental observations (All dates on Site, all surveyors).

3.6 A detailed method for each of the surveys listed above is presented within **Appendix A**.

Assessing Ecological Importance

- 3.7 The assessment of the importance of sites, habitats and species are made in line with good practice guidelines⁴. These guidelines provide consistency in the approach to evaluating the importance of the ecological features within a site and the effects or impacts a proposed development will have on them.
- 3.8 Firstly, the sites, habitats and species are assessed using a framework which assigns a level of geographical importance to ecological features. This framework incorporates a wide range of legislation and governmental guidance in assessing each feature's importance.
- 3.9 Next, the effects/likely effects of the Proposed Development are predicted, considering different stages and activities within the development process. These effects/likely effects are then assessed for their significance, based upon the importance of the site, habitat or species being assessed. The assessment of effects/likely effects significance is considered before and after the proposed mitigation to give an overall indication of significance.
- 3.10 The importance of specific ecological receptors (sites, habitats, or species) is assigned according to their level of importance using the following terms:
- International Importance.
 - UK Importance.
 - National Importance.
 - Regional Importance.
 - County Importance.
 - District Importance.
 - Local Importance.
 - Site Importance.

Assessing Ecological Significance

- 3.11 The following factors are considered when assessing the significance of ecological impacts and effects: extent, magnitude, duration, reversibility, timing and frequency and cumulative effects.
- 3.12 An effect is considered significant if it either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g., for a designated site) or broad (e.g., national/local nature conservation policy) or more wide-ranging (enhancement of

¹¹ Harris, S., Cresswell, P. & Jefferies, D. (1989). *Surveying Badgers. An occasional publication by the Mammal Society. No. 9.* Mammal Society, London.

biodiversity). Effects can be considered significant at a wide range of scales from international to local. Non-significant effects (referred to as 'negligible') are those changes which do not cause an effect (adverse or positive) on the conservation objectives for 'important ecological features' or for biodiversity in general.

- 3.13 Significant ecological effects are qualified with reference to an appropriate geographic scale. However, the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important.
- 3.14 In determining if an effect is ecologically significant, the following is considered:
- For designated sites, the effect of the Proposed Development on the conservation status of species or habitats for which the site is designated is assessed.
 - For ecosystems, the effect of the Proposed Development on ecosystem structure and function is assessed.
 - For habitats and species, the effect of the Proposed Development on the conservation status is assessed as well as the effects of impacts on individual habitats and species.

Clarifications of the Method

- 3.15 The **Main Pub** was assessed to be of High Suitability to support roosting bats, which would lead to the requirement to undertake three Bat Emergence Surveys. However, given the low levels of bat activity, lack of bat activity within the vicinity of the building, and lack of roosting behaviour, the third survey was not considered to be required.

Contributor information

- 3.16 The surveys were designed and led by Greg Nightingale. The EclA was written by Greg Nightingale. Greg Nightingale was supported by Mungo Nash, Tilly Edward, Alex Holden, and Rich Steele during the Bat Emergence Surveys. **Table 2** outlines the relevant experience of the assessment contributors.

Contributor	Experience
Greg Nightingale BSc (Hons) MCIEEM	Greg is the Director of LUS Ecology with over nine years of ecology and environmental management in the private sector. Greg has worked extensively within the planning system, undertaking protected species surveys, habitat surveys and Ecological Impact Assessments as well as providing advice on habitat management and mitigation and enhancement design. He has a comprehensive understanding of environmental policy and the current and emerging challenges facing the environment and how these challenges are managed within the planning sector. Through an understanding of good practice, planning policy, the ecology of protected habitats and species, and environmental impact pathways, Greg provides robust ecological advice that is cognisant of wider planning and legal requirements. He is experienced in Phase 1 Habitat classification and condition assessment using the UKHabs Classification system. He has designed, undertaken and reported on numerous habitat and protected species surveys (including Badger Surveys, Bat Emergence/Re-entry Surveys, Bat Activity Surveys, and Hazel Dormouse Surveys), including bespoke survey design and the implementation of numerous protected species mitigation strategies. Greg is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). He holds a level two Bat Licence, a level one great crested newt licence, and a NPTC (CS38) Tree Climbing and Aerial Rescue qualification. In addition, he has been named on badger mitigation licences and has completed courses in barn owls, botany, breeding birds, and hazel dormouse.
Mungo Nash BSc (Hons) Associate CIEEM submitted	Mungo has five years of private consultancy experience. He has been involved in Biodiversity Net Gain since 2019 and was a lead author on the Defra 3.1 metric guidelines. He has undertaken five seasons of Bat Emergence / Re-entry surveys and is a competent botanist. In his current role, he has recently finished preparing the survey and assessment guidelines for the current national Biodiversity Net Gain assessment process. This role includes directly working with all contributors of the Defra 4.0 Metric guidelines to deliver a joined up and collective approach to Biodiversity Net Gain in England.
Tilly Edwards Student CIEEM	Tilly is an Assistant Ecologist. She has two season's experience undertaking ecological surveys for various ecological consultancies across the Southwest. She has been trained in Preliminary Roost Assessment and Bat Emergence and Re-entry Surveys by a level 2 bat licenced surveyor. During the survey, she worked in line with close guidance and direction from the LUS Ecology Team and was supported by a Nightfox Red Infra-red camera.
Alex Holden BSc (Hons)	Alex is an Assistant Bat Surveyor, who has been undertaking bat surveys since 2022. She has been trained in Bat Emergence and Re-entry surveys by a level 2 bat licenced surveyor. During surveys, she worked in line with close guidance and direction from the LUS Team and was supported by a Nightfox Red Infra-red camera.
Richard Steele	Richard is an Assistant Bat Surveyor, who has been undertaking bat surveys since 2022. He has been trained in Bat Emergence and Re-entry Surveys by a level 2 bat licenced surveyor. During surveys, he worked in line with close guidance and direction from the LUS Team and was supported by a Nightfox Red Infra-red camera.

Table 1. Contributor experience

Limitations and assumptions

Limitations

- 3.17 The limitations associated with the survey work, data analysis, and reporting are set out within **Table 3**, along with an analysis of the effect of the limitation on the validity and robustness of the decision making within this report.

Limitation	Analysis of effect
The desk study and Extended Phase 1 Habitat Survey do not produce a comprehensive list of plants and animals as this is limited by factors that influence their presence (e.g., activity and dormancy periods).	The desk study is a reflection of survey effort and therefore the data returned from each request is variable across the UK. Targeted surveys for protected species have been undertaken based on the habitats present and evidence seen at the Site. During these visits, incidental recordings of species were made and used to supplement the ecological knowledge of the Site. The list of plants and animals from the Extended Phase 1 Habitat Survey, was also supplemented in this way. Given the habitats present within the Site, their common and widespread occurrence, it is not considered that further survey work is required.
The Preliminary Roost Assessment internal survey of the Main Pub did not include the full extent of the loft spaces and voids. This was due to safety concerns, the complexity of the roof design (and associated adaptations to the building), and the likely presence of sealed voids.	The loft and roof spaces of the Main Pub were accessed, with around 80% of these areas surveyed. There were two roof spaces which were sealed aside from damage to the ceiling of the room below allowing a visual survey of the space above only. Of the areas surveyed, no evidence of bats was found within the building. The building will be retained. Works will be limited to decorative works only across much of the building. The areas subject to impacts were surveyed in full. These impacts relate to two new sky lights and a flat roof that will connect below the rooves. This constraint is explored in further detail within the discussion of this report.
The Preliminary Roost Assessment internal survey of the Barn did not include the full extent of the loft space. This was due to safety concerns, as the loft floor appeared poorly constructed.	No evidence of bats was found within the building during the Preliminary Roost Assessment. The Barn was subject to two Bat Emergence Surveys.

The Ground Level Assessment of the suitability of the trees within and adjacent to the Site to support bats was undertaken when the trees were in leaf and/or the trees were evergreen species.	A thorough search was undertaken using close focusing binoculars. The majority of the trees were in a healthy condition with no signs of decay. All trees and hedges to be removed were readily viewable from the ground and small/thin in stature/extent.
During the Bat Emergence Survey on the 09/05/23, Greg Nightingale was not supported by a night vision camera due to safety concerns. During the Bat Emergence Survey on the 06/06/23, Tilly Edwards was not supported by a night vision camera due to safety concerns.	The survey position was within the public domain near a busy street with moderate footfall. The most experienced surveyor was positioned here. The surveyor was in constant contact via radio to check bat activity between other surveyors. The use of night vision cameras is currently optional and therefore the survey met current guidelines. In addition, it is anticipated from discussions with the Author of the pending guidelines, that the approach taking during this survey will be considered valid/in line with the future survey guidelines.
During the first Bat Emergence Survey 1 the Position 4 camera failed.	The use of night vision cameras is currently optional and therefore the survey met current guidelines. The Position 4 camera was an additional supportive camera and not a core part of the survey. The area Position 4 was filming was also covered by Positions 3, 5, and 6.

Table 2. Summary of limitations and their effect

Chapter 4: Results and Assessment

Data Search

The Local Landscape Context

- 4.1 At the landscape scale, the Site consists of an existing commercial plot, within Reading town centre. The Site comprises a formally used Pub with an associated car park. The Site is accessed via Castle Street to south. The surrounding landscape is densely developed and supports limited natural vegetation. A tree and shrub line adjacent to the western boundary of the Site connects to a community garden. In addition, some scattered trees to the northeast and southeast loosely connect the Site to the wooded grounds of a nearby church. Aside, from these areas, the surrounding land landscape is formed of buildings and hardstanding.

Statutory Designated Sites

- 4.2 Statutory designated sites are the most significant ecological receptors and include Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and RAMSAR sites, which are all of **International Importance**, and Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs), which are of **National Importance**.
- 4.3 Local Nature Reserves (LNRs) are notified under Section 21 of the National Parks and Access to the Countryside Act 1949 (as amended) by local authorities and are of **Local Importance**. They are intended for public appreciation and enjoyment of wildlife. The LNR designation does not afford special protection; however, LNRs are protected under legislation and planning policy.
- 4.4 The statutory designated sites within returned by the desk study are shown in **Table 3**. There were no SPAs, SACs, Ramsar Sites, or SSSIs within 5km of the Site.

Site Name	Reason for designation	Distance and direction
Ali's Pond LNR	A pond located in an area surrounded by large private gardens and recreation fields. The site supports 18 species of dragonfly and over 40 species of aquatic/wetland plants. Local Biodiversity Action Plan (BAP) species recorded within the Site include great crested newt <i>Triturus cristatus</i> , harvest mouse <i>Micromys minutus</i> , stag beetle <i>Lucanus cervus</i> , song thrush <i>Turdus philomelos</i> , and Pipistrelle Bat <i>Pipistrellus</i> species.	4.7km north east
Blundells Copse LNR	An ancient woodland with a stream. Notable species records include hedgehog <i>Erinaceus europaeus</i> , field mice <i>Mus musculus</i> , and frog <i>Rana temporaria</i> .	3.7km west
Clayfield Copse LNR	Ancient woodland.	3.7km north
Highwood LNR	This site is a good example of mixed lowland woodland with an area of heathland. The site has exotic tree species which were part of a former arboretum.	3.5km east
Lousehill Copse LNR	Semi-ancient woodland and an open meadow.	2.7km west
Maiden Eriagh Park LNR	Lowland mixed deciduous woodland, ancient semi-natural woodland and eutrophic open water.	3.8km southeast
Round Copse LNR	The Site supports woodland.	3.4km west
Pearman's Copse LNR	A small area of ancient woodland.	4.3km south
Mcllroy Park LNR	The Site is mostly grassland with semi-ancient woodland, mostly around the edges of the site.	3.3km west

Table 3. Summary of statutory designated sites returned by the desk study

Non-Statutory Designated Sites

- 4.5 In Berkshire, local sites are termed Berkshire Local Wildlife Sites (BLWS) and are of County Importance. The local sites within 1km of the Site are shown in **Table 4**.

Site Name	Reason for designation	Distance and direction
Holy Brook BLWS	The Holy Brook is a stream that carries water from and emptying back into the River Kennet, a chalk river. The western end of the site lies just west of the Burghfield Road although the brook originates further west near Theale. The central section of it flows through the Fobney and River Kennet Meadows. Alder <i>Alnus glutinosa</i> and willows <i>Salix Sp.</i> line the banks and a variety of wetland species are found along the banks. A number of notable invertebrates have been recorded in Holy Brook and water vole <i>Arvicola amphibius</i> has been recorded in the central and western sections.	470m South
River Kennet / kennet and Avon Canal BLWS	This section of the Kennet and Avon Canal is in fact a section where the River Kennet and the Canal form a single watercourse. Here it flows through an area of gravel pits.	600m South
Cow Lane Depot BLWS	A small isolated, triangular site bounded by a railway track, situated towards the centre of Reading. The site forms a mosaic of habitats ranging from willow scrub with mature trees, to open standing water with swamp to ruderal and tall herb grassland. The site has a varied topography with a steep north facing slope. Cow Lane Depot provides a wildlife corridor in an urban landscape. Standing water has collected at the centre of the site form a mosaic with open water and areas of encroaching willow scrub.	950m Northwest

Table 4. Summary of non-statutory designated sites within 5km of the Site

Protected, Priority, and Notable species

- 4.6 The relevant protected species records are incorporated into the Protected, Priority and Notable Species section, below.

Habitat survey

- 4.7 The Application Site supported the following habitats and features:
- Buildings and hardstanding.
 - Introduced shrub.
 - Scattered (potted) trees.

Buildings and hardstanding

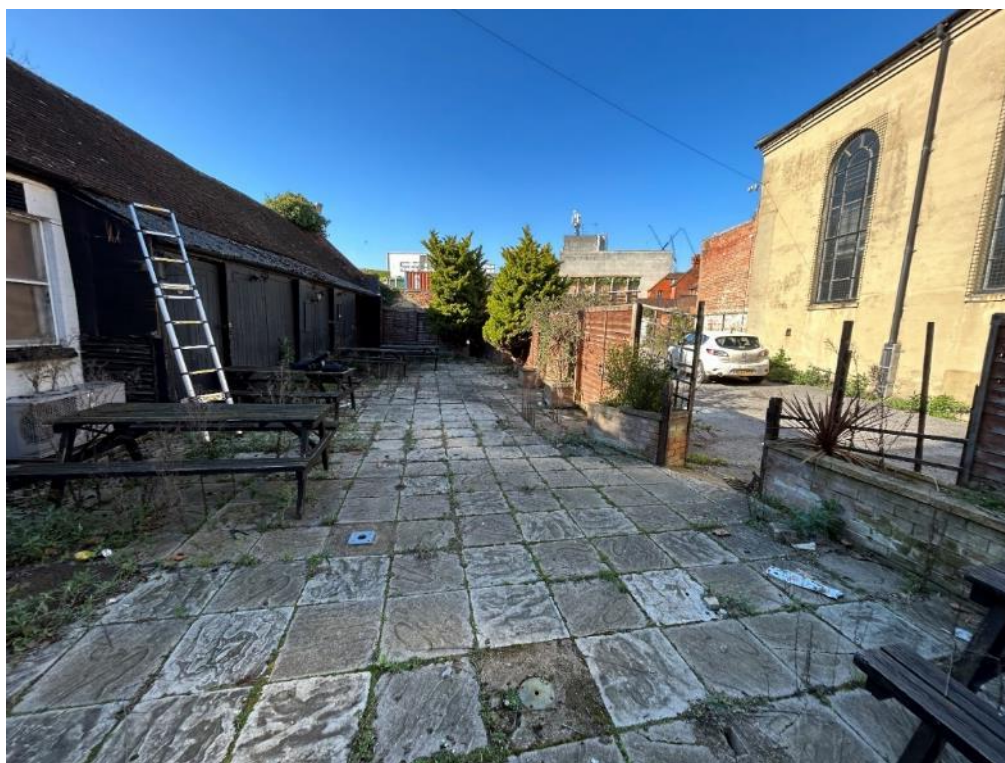
- 4.8 Almost the entirety of the Site is formed of buildings and hardstanding. There are two buildings within the Site, the **Main Pub** and the **Barn**. The hardstanding comprises a large tarmac car park (**Photograph 1**), a tarmac access route (**Photograph 2**), and a paved seating area (**Photograph 3**).



Photograph 1: Large tarmac car park



Photograph 2: Tarmac entrance into the Site



Photograph 3: Paved seating area

- 4.9 The **Main Pub** was a two storey brick, block, stone, and render building with varied roof design, predominantly formed of tiled gables (**Photographs 4 – 8**). There were two main loft spaces (**Photographs 9 – 11**), which were accessible by hatches/access points. The largest loft space (**L1**) was located above approximately 50% of the building.
- 4.10 Approximately 25% of the roof had been built into, forming three separate rooms (**loft rooms 1 – 3; Photographs 12 – 14**). Two of these rooms had ceilings, which had been partially damaged (presumably to allow a visual survey of the roof woodwork/tiling above). These areas were visually surveyed only, due to safety concerns (**Photographs 15 and 16**). The third room allowed access into the second loft space (**L2**), which occupied around 25% of the roof and connected to **L1**. Across the extent of the loft spaces, limited areas had a membrane lining, resulting in the underside (internal) of tiles being exposed. Areas of the tiling above loft room 3 supported a bitumen felt lining.
- 4.11 A large cellar was present beneath the pubs original structure (**Photographs 17 and 18**). The cellar was empty. The access points were the internal staircase accessed from within the structure (**Photograph 19**) and the hatch which opened onto Castle Street (**Photograph 20**).



Photograph 4: Main Pub, southern and eastern elevations



Photograph 5: Main Pub, southern elevations



Photograph 6: Main Pub, western elevations



Photograph 7: Main Pub, eastern and northern elevations



Photograph 8: Main Pub, eastern elevations 'court yard' facing



Photograph 9: Main Pub, loft space (L1) – Viewed from centre of roof, facing chimney stack (looking south)



Photograph 10: Main Pub, loft space (L1) – Viewed from chimney stack, facing north



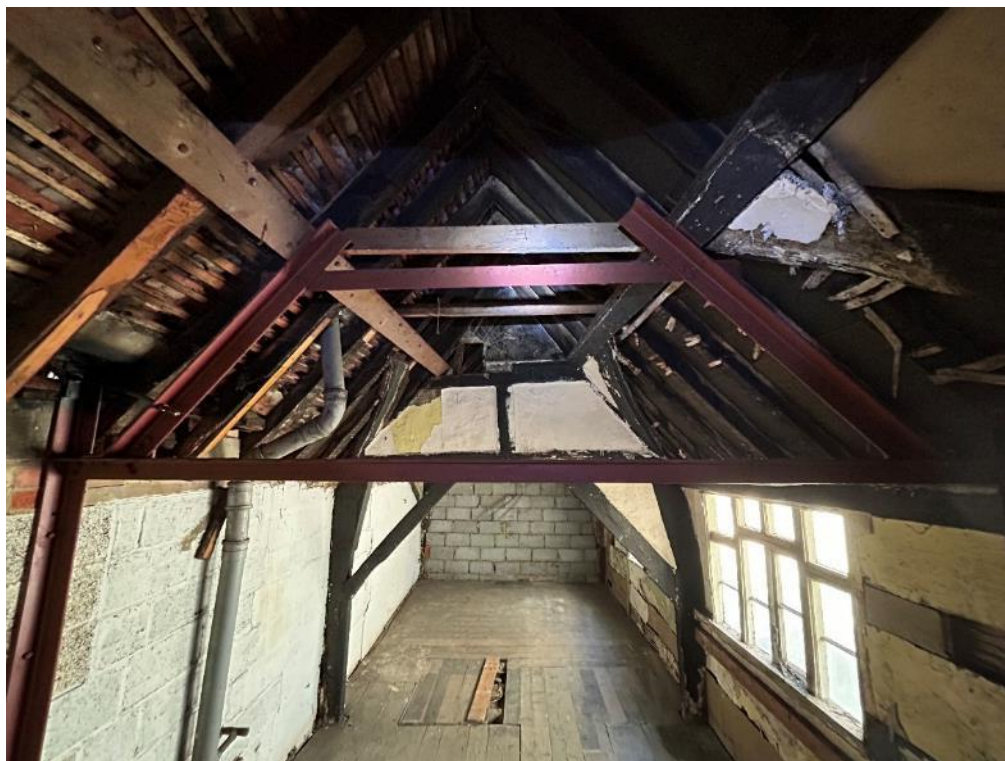
Photograph 11: Main Pub, loft space (L2)



Photograph 12: Main Pub, loft space room 1



Photograph 13: Main Pub, loft space room 2



Photograph 14: Main Pub, loft space room 3



Photograph 15: Main Pub, sealed void above loft space room 1



Photograph 16: Main Pub, sealed void above loft space room 2



Photograph 17: Main Pub, cellar beneath original structure



Photograph 18: Main Pub, cellar beneath original structure



Photograph 19: Main Pub, internal staircase leading to cellar



Photograph 20: Main Pub, hatch from cellar onto Castle Street

- 4.12 The **Barn** was a single storey building with a tiled gable roof (**Photographs 21 – 23**). The southern elevation of the building was connected to the **Main Pub**. The entirety of the western elevation was clad in dense ivy *Hedera helix*. A small wooden lean-to with a corrugated asbestos roof was present along the majority of the eastern elevation.
- 4.13 The building had been sub-divided into various storage spaces (**Photographs 24 and 25**). The majority of these spaces supported a wooden ceiling, above which was also used for storage.
- 4.14 A single large loft space, which spanned the length of the building was present above the structure (**Photographs 26 – 29**). The majority of this could be visually surveyed from access points. However, a walked survey of the roof space was not possible due to safety concerns.



Photograph 21: Barn, northern and eastern elevations



Photograph 22: Barn, eastern elevation with wooden lean-to



Photograph 23: Barn, western elevation, with dense ivy cover



Photograph 24: Barn, a sub-division of the internal structure



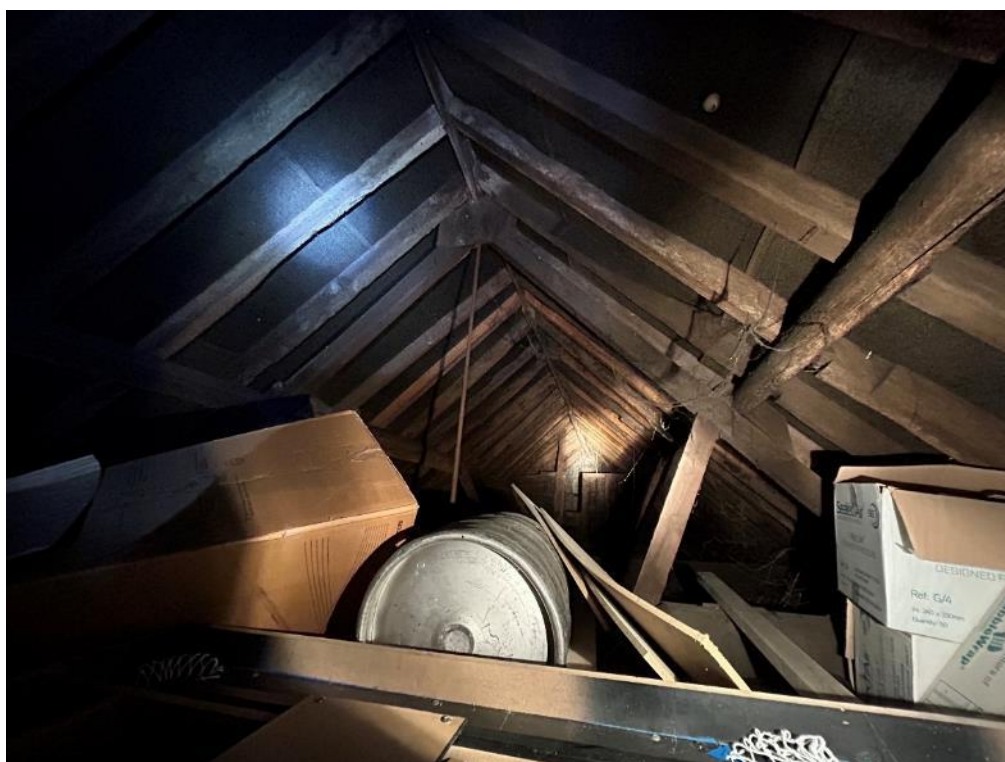
Photograph 25: Barn, a sub-division of the internal structure



Photograph 26: Barn loft space, northern extent viewing from south



Photograph 27: Barn loft space, central area viewing from south looking north



Photograph 28: Barn loft space, central extent viewing from north looking south

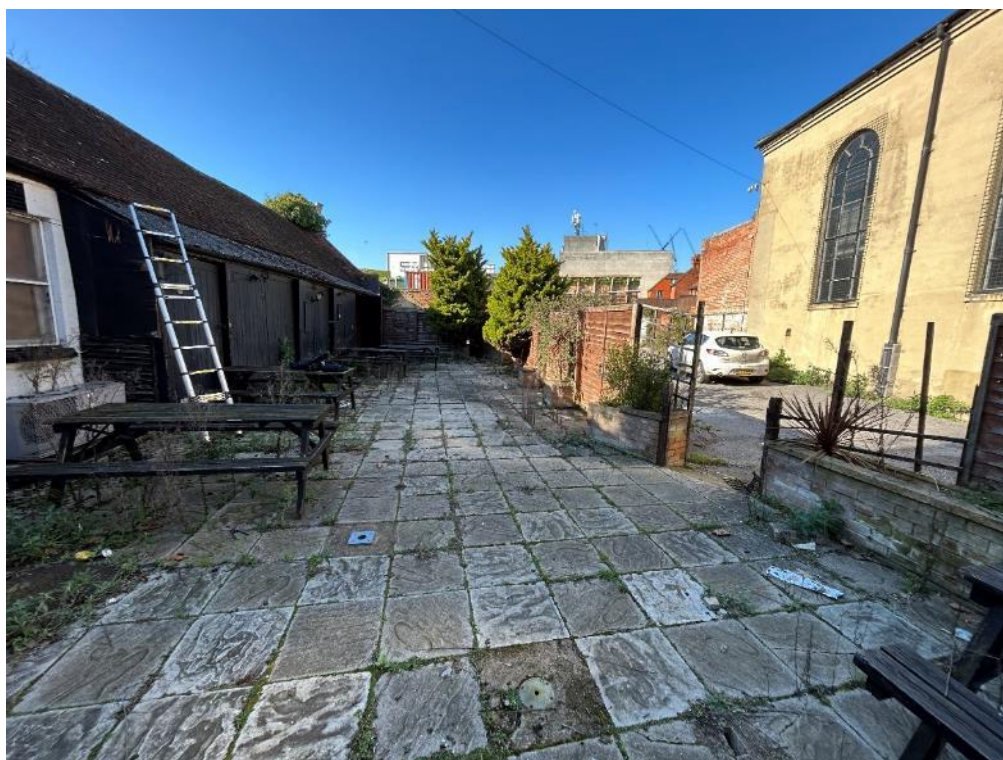


Photograph 29: Barn loft space, southern extent viewing from south

- 4.15 The majority of the Site was bound by brick and block walls, which had been rendered in places. These areas were generally sound. A large area of ivy, was present along the walls forming the northwest corner of the Site.
- 4.16 The **buildings** and **hardstanding** were of **Negligible Importance**. The importance of the buildings in relation to bats and birds, is discussed in the Protected, Priority and Notable Species section below.

Vegetation

- 4.17 There were small areas of non-native shrubs present within the approximate centre of the Site. This included two potted Leyland cypress *Cupressus × leylandii* trees. The remaining vegetation within the Site comprised ivy, butterfly bush *Buddleja sp.* and bramble *Rubus fruticosus*. The vegetation occupied less than 15m². The **vegetation within the Site** was of **Negligible Importance**.



Photograph 30: Introduced shrubs and Leyland cypress

Protected, Priority and Notable Species

- 4.18 The suitability of the Site to support the following species/species groups is outlined below:
- Amphibians, including great crested newt.
 - Badgers.
 - Bats.
 - Birds.
 - Reptiles.
- 4.19 All other Protected, Priority, and Notable Species were assessed to be of Negligible Importance given the context of the Site and the habitats present.

Amphibians

- 4.20 There were no granted EPSL records, survey licence returns, positive newt pond surveys, or data records for great crested newt within 1km of the Site. In relation to other amphibian species, the data search returned two records of common frog *Rana temporaria*. These records were not from within the Site or within 500m of the Site.
- 4.21 The entirety of the Site is hardstanding. There are no suitable ponds within or adjacent to the Site and no ponds connected to the Site by suitable terrestrial habitat for great crested newts.
- 4.22 The **amphibian interest** was of **Negligible Importance**.

Badgers

- 4.23 The data search returned seven records of badger. The data search confirmed three of these records were of setts. The remaining four records were field records or road traffic

accidents. None of these records were from within the Site or located within 100m of the Site.

- 4.24 The entirety of the Site is hardstanding. There are no habitats within or adjacent to the Site suitable for badgers. No direct evidence of badgers (setts, hairs, prints, tracks, or latrines) was observed within the Site.
- 4.25 The **badger interest** of the Site is of **Negligible Importance**.

Bats

- 4.26 The data search returned 316 records of bats, including records of:
- At least six species, including: common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat *Myotis daubentonii*, Nathusius's pipistrelle *Pipistrellus nathusii*, noctule *Nyctalus noctula*, serotine *Eptesicus serotinus*, and soprano pipistrelle *Pipistrellus pygmaeus*.
 - At least 22 roosts, including roosts of: common pipistrelle, Daubenton's bat, and soprano pipistrelle.
- 4.27 None of the above 316 records were from within the Site itself. There were five records within 200m of the Site. These included records of common pipistrelle and soprano pipistrelle. One of these records was of a common pipistrelle bat roost (unknown roost type) located 130m to the east of the Site.
- 4.28 There were five records of granted EPSL for bats within 1km of the Site. These included the destruction of resting places of common pipistrelle, Daubenton's bat, and soprano pipistrelle. These records were not located within 500m of the Site.

Roosts: Buildings

- 4.29 The Site was heavily impacted by light spill, sky glow, and a lack of natural vegetation within and adjacent to the Site. This reduces the likelihood of bat roosts being present within the Site.
- 4.30 No evidence of bats was recorded within the **Main Pub** or the **Barn**. It was not possible to survey the entirety of the loft spaces/voids of the structures. However, most of the loft spaces/voids were walked and the majority of the remaining areas were at least visually surveyed using torch light and close focusing binoculars. The levels of access into the lofts is set out in **Appendix B**.
- 4.31 The majority of the tiling of the **Main Pub** was not felt lined, therefore much of the roof tiling leads directly into loft spaces/voids. The loft spaces were largely surveyed and no evidence of bats was found. This suggests that void dwelling bat species, which typically fly throughout the loft space/void, are unlikely to be using the **Main Pub** or **Barn** as a roost.
- 4.32 However, there were numerous external features and features within the loft voids/spaces, that could be used by crevice dwelling bats (**Photographs 31 – 45**). These features were as follows:
- Lifted and slipped tiles (**Main Pub and Barn**).
 - Lifted ridge tiles and missing mortar beneath ridge tiles (**Main Pub and Barn**).
 - Holes in masonry (**Main Pub and Barn**).

- Dense ivy forming roosting sites and obscuring views of areas where features may be present behind (**Main Pub, Barn**, and spreading onto adjacent walls).
- A felt lined area of tiling (**Main Pub**).
- The entirety of the **Barn** tiling was felt lined (**Barn**).
- Holes leading at eaves leading directly into roof spaces (**Main Pub**).
- Holes in woodwork of eaves (**Main Pub**).
- Hanging tiles (**Main Pub**).
- Missing mortar at chimney stack (**Main Pub**).
- Lifted lead flashing at chimney stack (**Main Pub**).

4.33 Based on the above features, their extent, their locations and Sites position in the landscape, the **Main Pub** was assessed to be of **High Suitability** to support a bat roost and the **Barn** was assessed to be of **Moderate Suitability** to support a bat roost.



Photograph 31: Main Pub, lifted and slipped tiles, southern elevation



Photograph 32: Main Pub, hanging tiles, western elevation



Photograph 33: Main Pub, hanging tiles, northern elevation



Photograph 34: Main Pub, lifted flashing at chimney stack and missing mortar



Photograph 35: Main Pub, gaps at eave and missing tiles, eastern elevation



Photograph 36: Main pub, gaps/damage to wooden eaves, northern elevation



Photograph 37: Main Pub, eaves overhanging Barn, gaps leading into roof



Photograph 38: Main Pub, eaves overhanging Barn, lifted lead flashing and ivy lattice



Photograph 39: Main Pub, internal of room 3, tiles were felt lined



Photograph 40: Barn, missing and lifted tiles, eastern elevation



Photograph 41: Barn, missing and lifted tiles and gaps at ridge, northern gable end



Photograph 42: Barn, holes in masonry, northern gable end



Photograph 43: Barn, holes in masonry, eastern elevation



Photograph 44: Barn, entirety of tiles lined with felt



Photograph 45: Main Pub, Barn, adjacent wall, ivy lattice

- 4.34 **The Barn and part of the Main Pub will be subject to two Bat Emergence Surveys. Table 5 and Appendix C set out the results of the Bat Emergence Surveys. The surveys confirmed that bat roosts were absent from the Barn and the areas of the Main Pub**

which were subject to survey. Extracts of the night vision camera footage at the start and end¹² of the surveys are shown in **Figures 3 – 21.**

Date	Survey Type	Survey Times	Temp °C	Cloud Okta	Rain	Wind *B
09/05/23	Dusk / Emergence	20:30 – 22:09 Sunset: 20:39	15.2 – 13.1	8 – 8	Light rain: 20:30 – 20:40 and 21:20 – 21:27	1 – 1
06/06/23	Dusk / Emergence	21:01 – 22:46 Sunset: 21:16	16.4 – 13.4	5 – 7	None	2 – 2
Survey One: No emergence. Activity was low and mostly of common pipistrelle. A Nyctalus species (likely noctule) was recorded once throughout the survey. Bat activity was limited to the courtyard, with bats entering the site from the north. Survey Two: No emergence. Activity was low and mostly of common pipistrelle. A Nyctalus species (likely noctule) was recorded a small number of times throughout the survey. Bat activity was limited to the courtyard and western elevation of the building with bats entering the Site from the north.						

Table 5. Bat Emergence Survey results

¹² End of Survey one position 4 not shown due to camera malfunction.



Figure 3. Survey 1: Position 2: Survey Start (Nightfox Red, operated by Alex Holden)



Figure 4. Survey 1: Position 2: Survey End (Nightfox Red, operated by Alex Holden)



Figure 5. Survey 1: Position 3: Survey Start (Nightfox Red, operated by Mungo Nash)



Figure 6. Survey 1: Position 3: Survey end (Nightfox Red, operated by Mungo Nash)



Figure 7. Survey 1: Position 4: Survey Start (Nightfox Red, operated by Mungo Nash)



Figure 8. Survey 1: Position 5: Survey Start (Nightfox Red, operated by Richard Steele)



Figure 9. Survey 1: Position 5: Survey end (Nightfox Red, operated by Richard Steele)



Figure 10. Survey 1: Position 6: Survey start (Canon XA60, operated by Mungo Nash)



Figure 11. Survey 1: Position 6: Survey end (Canon XA60, operated by Mungo Nash)



Figure 12. Survey 2: Position 1: Survey Start (Nightfox Red, operated by Greg Nightingale)



Figure 13. Survey 2: Position 1: Survey end (Nightfox Red, operated by Greg Nightingale)



Figure 14. Survey 2: Position 3: Survey start (Nightfox Red, operated by Richard Steele)



Figure 15. Survey 2: Position 3: Survey end (Nightfox Red, operated by Richard Steele)



Figure 16. Survey 2: Position 4: Survey start (Canon XA60, operated by Mungo Nash)



Figure 17. Survey 2: Position 4: Survey end (Canon XA60, operated by Mungo Nash)



Figure 18. Survey 2: Position 5: Survey start (Nightfox Red, operated by Mungo Nash)



Figure 19. Survey 2: Position 5: Survey end (Nightfox Red, operated by Mungo Nash)



Figure 20. Survey 2: Position 6: Survey start (Canon XA60, operated by Mungo Nash)



Figure 21. Survey 2: Position 6: Survey end (Canon XA60, operated by Mungo Nash)

Roosts: Hibernation

- 4.35 No evidence of bats was recorded within the cellar and no access points into the cellar were present aside from the internal staircase and the hatch accessed from Castle Street. Given the location of the Site, lack of evidence of bats, and the lack of open access points for bats to enter the cellar, **the cellar** was assessed to be of **Negligible Suitability** to support a hibernation roost.

Roosts: Trees

- 4.36 **All the trees within/adjacent to the Site** were subject to a GLA and confirmed to be of **Negligible Suitability** to support bat roosts. This was due to their size, species, growth form, health, and/or physical lack of features suitable for roosting bats.

Commuting and Foraging

- 4.37 At the landscape scale, the Site was in a densely urban location, which was heavily impacted by modification of the landscape, urban lighting, and skyglow. The surrounding landscape supported limited natural vegetation. However, a tree and shrub line, adjacent to the western boundary of the Site, connected to a community garden. In addition, some scattered trees to the northeast and southeast loosely connected the Site to the wooded grounds of a nearby church. This church was within close proximity to a common pipistrelle roost identified within the data search. Aside from these areas, the surrounding landscape is formed of buildings and hardstanding.
- 4.38 The Site contained limited habitat of commuting and foraging interest to the local bat population. During the Bat Emergence surveys, the bat activity was limited to occasional passes of common pipistrelle within the Site and a small number of passes from a *Nyctalus* species (likely noctule).
- 4.39 The **Site was assessed to be of Negligible Suitability for commuting and foraging bats**. The **adjacent areas of vegetation**, located outside of the site, were assessed to be **Low Suitability to support committing and foraging bats**.

Birds

- 4.40 The data search returned 436 records of birds. This was comprised of an assemblage associated with urban, garden, and urban fringe habitats. The buildings and vegetation within the Site, including the ivy, may occasionally support small numbers of nests of common bird species. A pigeon *Columba palumbus* was observed nesting in a concrete structure on the floor of the Barn. The **nesting bird interest** was of **Site Level Importance**.

Reptiles

- 4.41 The data search returned a single reptile record. This was of a grass snake *Natrix helvetica*, located 950m to the northwest near Cow Lane Depot BLWS. There were no granted EPSL for reptiles within 1km of the Site.
- 4.42 At the landscape scale, the Site is located within a densely urban area, which is unlikely to support populations of reptiles. There were no habitats within or adjacent to the Site that were suitable for reptiles.
- 4.43 The **reptile interest** was assessed to be of **Negligible Importance**.

Results Conclusion

4.44 A summary of the results in presented in **Table 5**.

Ecological Feature	Ecological Importance / Suitability*	Further assessment required?
Ali's Pond LNR	Local Importance	Yes
Blundells Copse LNR	Local Importance	Yes
Clayfield Copse LNR	Local Importance	Yes
Highwood LNR	Local Importance	Yes
Lousehill Copse LNR	Local Importance	Yes
Maiden Eriegh Park LNR	Local Importance	Yes
Round Copse LNR	Local Importance	Yes
Pearman's Copse LNR	Local Importance	Yes
McIlroy Park LNR	Local Importance	Yes
Holy Brook BLWS	County Importance	Yes
River Kennet / kennet and Avon Canal BLWS	County Importance	Yes
Cow Lane Depot BLWS	County Importance	Yes
Buildings and hardstanding	Negligible Importance	No
All vegetation	Negligible Importance	No
Amphibians	Negligible Importance	No
Badgers	Negligible Importance	No
Bats: Roosting	Main Pub – High Suitability* Barn – Moderate Suitability* The Bat Emergence surveys did not confirm the presence of bat roosts	Yes
Bats: Commuting and foraging	Low Suitability*	Yes
Birds	Site Importance	Yes
Reptiles	Negligible Importance	No

Table 6. Summary of Results

Chapter 5: Discussion

- 5.1 The following discussion and assessment has been provided to ensure full compliance with legislation and both local and national planning policy set out in **Appendix D**.

Embedded Mitigation

- 5.2 The design of the scheme avoids impacts on the majority of the **Main Pub's** external features which are suitable for roosting bats. The design also avoids light spill towards the vegetation to the north and west, which links to an area of greenspace, by avoiding the installation of new windows in this area.

Effects of the Proposed Development

- 5.3 This section concerns an assessment of ecological effects resulting from the Proposed Development. The following effects have been identified:
- The potential to kill/harm nesting birds and their young.
 - The potential to increase light spill onto natural features within and adjacent to the Site.

Statutory Designated Sites

- 5.4 The statutory sites are spatially isolated from the Proposed Development as to avoid impacts in relation to habitat loss, habitat fragmentation, habitat degradation, noise, light, dust, and pollution. In addition, there will be no net increase in residential units at the Site and the Site has previously operated as a Pub. Therefore, the Proposed Development will not lead to increased traffic emissions or increased recreational pressure on the local landscape. As a result, there will be no impacts of the Proposed Development on the statutory and non-statutory sites identified within this assessment.

Habitats

- 5.5 Given the negligible importance of the habitats within the Site and the proposed provision of new planting areas, trees, potted shrubs, and climbing plants, the overall effect on habitats will be a net increase in trees and vegetation. The new planting will include native shrub planting, with the shrub planting including will be species of known value to UK wildlife (e.g., species from the Royal Horticultural Society pollinator list or species recommended by the Bat Conservation Trust for encouraging invertebrates and bats). The overall residual effect on the habitats within the Site will be a minor positive.

Protected, Priority, and Notable species

- 5.6 Care must be taken during clearance/groundworks to ensure wildlife is not harmed and in the event any protected species are found when an ecologist is not in attendance, works must stop, they will not be handled, and an ecologist will be contacted.

Bats

Roosting

- 5.7 The Bat Emergence Surveys did not detect the presence of bats using the building to roost. The applicant has committed to the following avoidance, mitigation, compensation, and enhancement:

- Works will proceed at temperatures above 5°C.
- Reasonable avoidance measures during demolition, renovation, and construction will be implemented when dismantling features such as tiles, fascias, and lead flashing.
- Enhancement in the form of new ridge tile access points and/or bat boxes within the curtilage of the property.

- 5.8 The removal by hand of the features suitable for bats to use as roost is being carried out strictly as a precaution. In the highly unlikely event that a bat is found during the works, then works will stop, the bat will not be handled, sheltering material will be placed around the bat (if possible), and the advice of an ecologist, will be sought¹³.
- 5.9 By following the above strategy there would be no impact on bats and the development will be able to proceed lawfully and in line with survey and mitigation guidelines.
- 5.10 The Site was assessed to be of **Negligible Suitability** for commuting and foraging bats. The vegetation corridors adjacent to the Site were assessed to be of **Low Suitability** for commuting and foraging bats. The increase in tree and shrubs across the Site will improve the foraging interest of the Site.

Commuting and foraging

- 5.11 The Site was assessed to be of **Negligible Suitability** for commuting and foraging bats. The vegetation corridors adjacent to the Site were assessed to be of **Low Suitability** for commuting and foraging bats. The increase in tree and shrubs across the Site will improve the foraging interest of the Site.
- 5.12 To avoid the spread of light onto the adjacent vegetation and proposed new vegetation, during construction and occupation, a sensitive lighting strategy will be implemented, in line with the following principles:
- Zonal lighting which will be fully controllable and dimmable.
 - Luminaires will be positioned and directed away from vegetation.
 - Positioned heights will be reduced as far as practicably possible.
 - White light will be avoided, and warm colours will be preferably used. Preferable colours are 3000°k to 2700°k (where feasible) with peak wavelengths greater than 550nm.
 - Luminaires with 0% upward light output and no tilting of the light head will be used.
 - Motion sensors will be applied to security lighting.
- 5.13 With the above mitigation, **the overall residual impact on commuting and foraging bats will be neutral.**

Nesting birds

- 5.14 The removal of vegetation (including ivy) and renovation of the **Barn** and **Main Pub** should ideally be undertaken outside the nesting bird season (which is generally taken to be March - August inclusive). Should it prove necessary to remove vegetation during the bird nesting

¹³ This is included as good practice and to ensure the client and contractor are aware of the right steps to be undertaken in the highly unlikely event that a bat is found. It's inclusion within this report does not detract from the survey work that underpins the assessment and the overall conclusion of this report.

season, the area will be checked in advance for the presence of bird nests by a suitably competent person. If there is no evidence of breeding birds, the clearance work will be completed within 48 hours of inspection. If any active nests are identified, vegetation clearance will cease, and an appropriate buffer zone must be established around the nest in discussions with an ecologist (usually 5m). The buffer must remain intact until it has been confirmed that the young have fledged, and the nest is no longer in use.

- 5.15 With the above mitigation, **the overall residual impact on nesting birds will be neutral.**

Assessment Conclusion

- 5.16 A summary of the assessment outcomes is presented in **Table 6**.

Ecological Feature	Ecological Importance / Suitability*	Assessment outcome
Ali's Pond LNR	Local Importance	No impact
Blundells Copse LNR	Local Importance	No impact
Clayfield Copse LNR	Local Importance	No impact
Highwood LNR	Local Importance	No impact
Lousehill Copse LNR	Local Importance	No impact
Maiden Eriegh Park LNR	Local Importance	No impact
Round Copse LNR	Local Importance	No impact
Pearman's Copse LNR	Local Importance	No impact
McIlroy Park LNR	Local Importance	No impact
Holy Brook BLWS	County Importance	No impact
River Kennet / kennet and Avon Canal BLWS	County Importance	No impact
Cow Lane Depot BLWS	County Importance	No impact
Bats: Roosting	Negligible Importance	Mitigation required during construction as a precaution.
Bats: Commuting and foraging	Low Suitability	Mitigation embedded. Lighting mitigation required during construction and operation.
Nesting birds	Site Importance	Mitigation required during construction to avoid impacts.

Table 7. Summary of assessment outcomes

5.17 Based on the results from the survey, context of the Site, and overall low ecological importance of the Site, this report is valid for a period of 18 months (i.e., the 06/12/2024). This is reasoned in line with good practice guidelines¹⁴.

Enhancement

- 5.18 The following ecological and biodiversity enhancements will be provided within the Site:
- Two bird boxes installed on retained boundary trees within the introduced shrub. These will comprise one Schwegler 1B bird box and one 2M Schwegler bird box (or similar woodcrete alternatives). The boxes will be installed at a minimum height of 3m facing north or east, in areas sheltered from the prevailing wind.
 - Two new ridge tile access points and two new bat tubes within the curtilage of the Proposed Development.
 - The Proposed Development will include four bee bricks, built into the fabric of the new building.
 - Two integrated bird boxes (The Standard Box), at a minimum height of 2m, facing north or east and near areas of existing or proposed vegetation.

¹⁴ CIEEM (2019). *Advice Note: On the Lifespan of Ecological Reports and Surveys*. Chartered Institute for Ecology and Environmental Management, Winchester.

Appendix A: Survey Methods

Extended Phase 1 Habitat Survey

1. The Site was surveyed using the Phase I Habitat Survey method. The method classified the Site into areas of similar botanical community types with a representative sample of those species present at the time of the survey being described. The vegetation present was clearly visible and allowed an accurate assessment to be made. Subsequent visits to the Site were used as an opportunity to update the results and classifications of the Phase 1 Habitat Survey.
2. The 'Extended' to record evidence and assess the suitability of the Site to support rare, protected, and notable species of flora or fauna¹⁵. This extension to the survey allows identification of areas of greater suitability that require further survey. In the context of this report, rare, protected, and notable species of flora or fauna were those considered to meet any of the following criteria:
 - Species protected by UK or European legislation.
 - UK Post 2010 UK Biodiversity Framework priority species or Local Biodiversity Action Plan (LBAP) species.
 - Nationally rare or nationally scarce species.
 - Species of Conservation Concern (e.g., JNCC Red List, RSPB/BTO Red or Amber Lists).
 - The Wildlife and Countryside Act (1981) as amended, makes it an offence to release or allow to escape into the wild any animal, plant or micro-organism not ordinarily resident in the UK (as listed in Schedule 9 of the Act). Plant species listed in Schedule 9 were searched for during the survey. However, many invasive species can be cryptic and therefore this survey does not provide a guarantee that an invasive species is not present and shouldn't be relied upon to rule out absence of an invasive species.
3. The survey included recording for invasive species. Invasive species can be cryptic and can rapidly spread from adjacent land. LUS Ecology cannot be held liable for invasive species found within the Site after the date of the Extended Phase 1 Habitat Survey.

Badgers – Visual Survey

4. The Site was systematically surveyed for evidence of badgers, in the form of:
 - Setts - comprising either single isolated holes or a series of holes, which may be linked to each other underground.
 - Faeces - badgers deposit faeces in characteristic excavated pits, concentrations of which (latrine sites) are typically found at home range boundaries, field boundaries and around setts.
 - Paths - worn paths used by badger, often linked to setts or foraging grounds.
 - Scratching posts - typically at the base of tree trunks.
 - Snuffle holes - scrapes where badgers have searched for food.

¹⁵ Suitability was determined using respective good practice guidance for each species/species group.

- Day nests - bundles of grass and other vegetation where badgers may sleep above ground.
 - Hairs - usually found outside setts or caught under fencing.
5. Where badger setts were found, evidence was recorded as follows:
- Number of well-used holes - one or more of the features: well-worn entrance; freshly excavated soil; and bedding material.
 - Number of partially used holes - leaves or twigs in entrance and/or mosses and other plants growing in or around entrance.
 - Number of disused holes - partially or completely blocked, with considerable amount of excavation required for reoccupation.
 - The dimensions of the opening.
 - The nature of the spoil.
 - The presence of cobwebs, leaf litter, droppings, footprints and hair in the immediate vicinity and at the opening.
6. Where feasible, badger setts were broadly categorised as follows¹⁶:
- Main sett - continuously used, breeding and over-wintering sett for a social group of badgers. Only one main sett will exist in each social group's territory and will be relatively centrally located within the group's range.
 - Annexe sett - annexe of the main sett, linked by well-used paths to the main sett (but not connected underground) and not continuously used.
 - Subsidiary sett - distant from the main sett. Several entrances, but with no well-used paths connecting to the main sett, and only used seasonally.
 - Outlier sett - distant from the main sett. Small, with only one of two entrances only. Used for short periods sporadically, with no obvious, well-used paths connecting to other setts.

Bats Surveys

Preliminary Roost Assessment

7. The structures within the Site were subject to a Preliminary Roost Assessment (PRA) following good practice guidelines. This is an external and internal inspection survey, the purpose of which is to search for bats/evidence of bats and assess the likelihood of bats being present and the need for further survey and/or mitigation.
8. Prior to the external inspection, each structures' age, design, location, construction materials, state of repair, and current use, were assessed. These were then related to the likelihood of a bat roost being present, along with consideration of which species of bat are most likely to use the building. The external inspection included searching for the following features to determine if suitable exit/entry points were present:
- Holes, gaps, cracks and damage to masonry/walls.
 - Lifted, missing, slipped, and damaged tiles, including tiles at the ridge, hip and across the roof.
 - Lifted, slipped and missing areas of hanging tiles, weatherboarding and cladding.
 - Gaps/holes/damaged to soffits and facias.
 - Lifted flashing around air vents, chimneys, roof joints.

¹⁶ Andrews R. (2013). *The classification of badger Meles meles setts in the UK: A review and Guidance for surveyors*. In Practice, Winchester [82] 27- 31.

- Interfaces of different materials and roof designs, where construction and/or damage can cause gaps.
9. If suitable exit/entry points were observed during the external inspection, the following evidence of roosting bats was carefully searched for on the exterior of the building:
- Droppings (down the wall, on the floor, caught in spiderwebs, on windowsills).
 - Staining and/or clean/smoothed areas, indicative of exit/entry.
 - Feeding remains, including moth/butterfly wings and beetle wing casings.
10. Prior to the internal inspection, the roof/loft design, likely levels of disturbance, and any likely recent changes to the roof/loft were assessed. These were then related to the likelihood of a bat roost being present, along with consideration of which species of bat are most likely to use the roof/loft space. The internal inspection included searching for the following evidence of roosting bats within the roof/loft space:
- Roosting bats within crevices or free hanging.
 - Bat corpses (on the floor, in uncovered water tanks or other containers).
 - Bat droppings, including beneath likely roosting areas.
 - Feeding remains, including moth/butterfly wings and beetle wing casings.
 - Scratch marks, staining and/or clean/smoothed areas, indicative of regular use.
 - Bat-fly Nycteribiid spp. pupal cases.
 - Gaps within the structure of the building, including:
 - Light ingress in the roof indicating access points to the outside.
 - Between the roof lining and roof covering.
 - Within the structure of walls and suitable access points to cavity or rubble-filled walls.
 - Around the structure of chimneys or within disused chimney.
 - Around lintels.
 - Evidence beneath roof insulation, which indicates use by bats before the insulation was installed.
 - Clean swept floors, which may indicate evidence has been removed.
11. The following equipment was used for the Preliminary Roost Assessment:
- Elevation and baseline drawings of the building or structure.
 - Binoculars (Pentax Papilio II 6.5 x 21 Close focusing).
 - Powerful torch to illuminate dark corners from the ground.
 - A ladder.
 - Camera to record evidence.

Ground Level Assessment

- 5.19 The trees within the Site were subject to a Ground Level Assessment (GLA) following good practice guidelines. This is an external and internal inspection survey, the purpose of which is to search for bats/evidence of bats and assess the likelihood of bats being present and the need for further survey and/or mitigation.

- 5.20 The features suitable to support bat roosts were searched for on the trees with reference to the Bat Tree Habitat Key¹⁷. These features are as follows:
- Longitudinal splits.
 - Crevices.
 - Rot-hollows.
 - Transverse cracks.
 - Loose bark.
 - Ivy.
- 5.21 The following equipment was used for the Ground Level Assessment:
- Binoculars (Pentax Papilio II 6.5 x 21 Close focusing).
 - Powerful torch to illuminate dark features from the ground.
 - A ladder.
 - Camera to record evidence.
- 5.22 The assessment of the suitability of the trees within the Site was assessed against Table 4.1 of the Bat Survey Guidelines. A redacted version of the table is set out in **Table 1** below.

¹⁷ Andrews H. (2018). *Bat Roosts in Trees - A Guide to Identification and Assessment for Tree-care and Ecology professionals: Bat Tree Habitat Key*. Pelagic Publishing, Exeter.

Suitability	Description of roosting habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e., unlikely to be suitable for maternity or hibernation).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Confirmed*	Evidence of bats has been confirmed within the Site. A temporal scale of recent use can also be applied based upon the type of evidence found and its condition. If a roost is found it may be assigned to the following: • Confirmed, active. • Confirmed, likely active. • Confirmed, unknown if active.
Unknown**	The survey was unable to determine the suitability of the structure based on standard methods and further survey is required to determine the suitability.
*This is an addition to Table 4.1 within the Bat Survey Guidelines but is based upon assertions and reasoning within the Bat Survey Guidelines.	
** This is an addition to Table 4.1 within the Bat Survey Guidelines but is based upon assertions and reasoning within the Bat Survey Guidelines at 6.3.1, where the suitability of roosting features may be re-classified based on additional survey work.	

Table 8. Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement – redacted.

Bat Commuting and Foraging Interest

12. The assessment of the suitability of the commuting and foraging interest of the Site was compared against Table 4.1 within the Bat Survey Guidelines. A redacted version of the table is set out in **Table 8** below.

Suitability	Description of commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e., not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, treelined watercourses and grazed parkland. Site is close to and connected to known roosts.

Table 9. Guidelines for assessing the potential suitability of Proposed Development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement – redacted.

Bat Emergence Surveys

- 5.23 Bat Emergence Surveys were undertaken during the appropriate survey season (May – September, with September being sub-optimal). The Bat Emergence Surveys commenced approximately 15 minutes before sunset and continued for approximately 1.5 hours after sunset. Surveyors were positioned to ensure complete coverage of the building. The survey equipment is set out in **Table 9** and spatially at **Appendix C**.

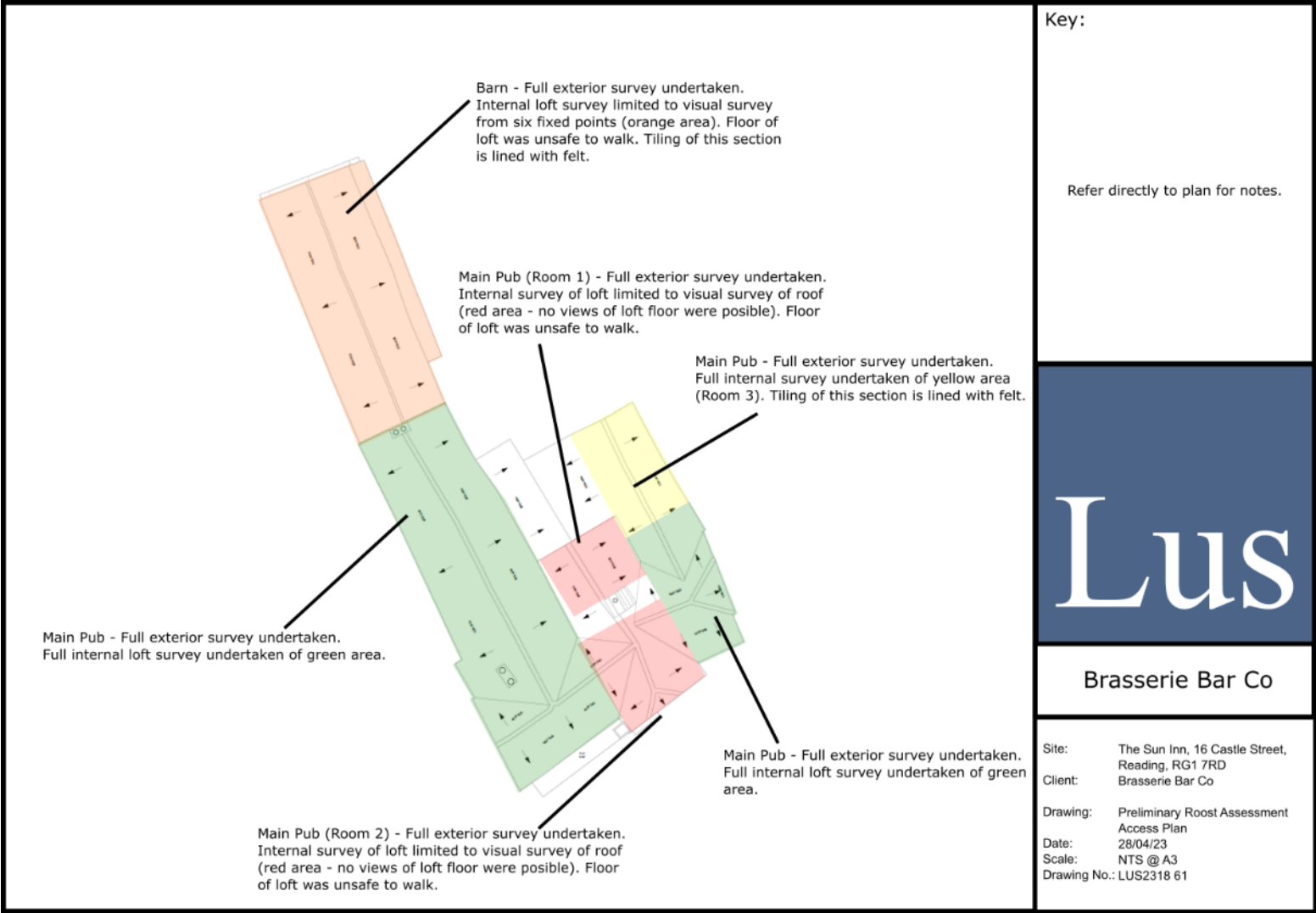
Survey	Position	Description
1	1	Greg Nightingale, viewing western elevations of the Barn . Equipped with a Song Meter Mini bat.
	2	Alex Holden viewing northern and eastern elevations of the Barn . Equipped with a Anabat Scout and supported by a tripod mounted Nightfox Red with infra-red flood lights.
	3	Mungo Nash viewing northern elevations of the Main Pub (the roof valley). Equipped with a Anabat Scout and supported by a tripod mounted Nightfox Red with infra-red flood lights. Mungo was also operating positions 5 and 6.
	4	A tripod mounted Nightfox Red with infra-red flood lights viewing Main Pub (the roof valley) northern elevation of the north west gable of the Main Pub . This position was additional and used to provided alternative angles/views of the features and provide additional Infra-red lighting of the Main Pub .
	5	Richard Steel viewing eastern elevations of the Barn and eastern elevation of the Main Pub (the roof valley). Equipped with a Anabat Scout and supported by a tripod mounted Nightfox Red with infra-red flood lights. Rich was supporting in the operation of positions 5 and 6.
	6	A tripod mounted Canon XA60 with infra-red flood lights viewing eastern and northern elevation of the northwest gable of the Main Pub . A Song Meter Mini bat was deployed with this position.
2	1	Greg Nightingale, viewing western elevations of the Barn . Equipped with a Anabat Scout and supported by a tripod mounted Nightfox Red with infra-red flood lights.
	2	Tilly Edwards, viewing western elevations of the Barn . Equipped with a Echo Meter Touch 2 (IOS).
	3	Richard Steel viewing northern and eastern elevations of the Barn . Equipped with a Anabat Scout and supported by a tripod mounted Nightfox Red with infra-red flood lights. Rich was supporting in the operation of positions 5 and 6.
	4	Mungo Nash viewing northern elevations of the Main Pub (the roof valley). Equipped with a Anabat Scout and supported by a tripod mounted Canon XA60 with infra-red flood lights. Mungo was also operating positions 5 and 6.
	5	A tripod mounted Nightfox Red with infra-red flood lights viewing the eastern elevations of the Barn. This position was additional and used to provided alternative angles/views of the features and provide additional Infra-red lighting of the Main Pub .
	6	A tripod mounted Canon XA60 with infra-red flood lights viewing eastern and northern elevation of the northwest gable of the Main Pub . A Song Meter Mini bat was deployed with this position.

- 5.24 All bat activity was recorded, including roost access points (where present), species, timings, direction of flight, behaviour, and use of landscape features.
- 5.25 All bat data was converted from WAV to Zero Crossing files and analysed using the software programme Analook. A series of Analook Scans utilising species/genus filtered were carried out and the results of each scan were reviewed and approved by Greg Nightingale. Bat passes were assigned to the lowest tax group possible (genera/species), whilst maintaining a high level of certainty. Where bat calls were indistinguishable between

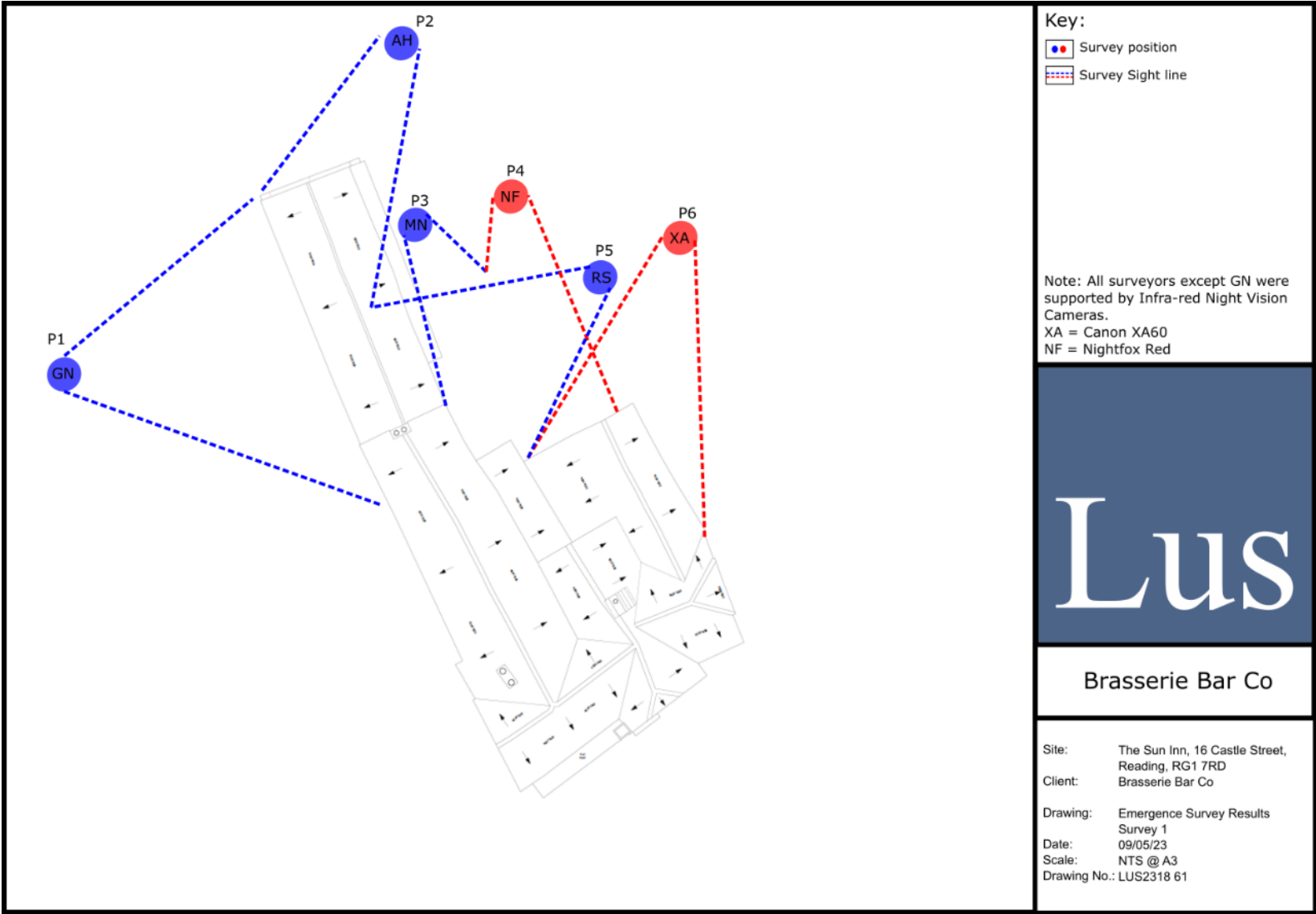
two similar species it was assumed that both species were present, unless an overriding factor would clearly demonstrate that a species is highly unlikely to be present within the Site. This approach to call analysis ensured a robust assessment.

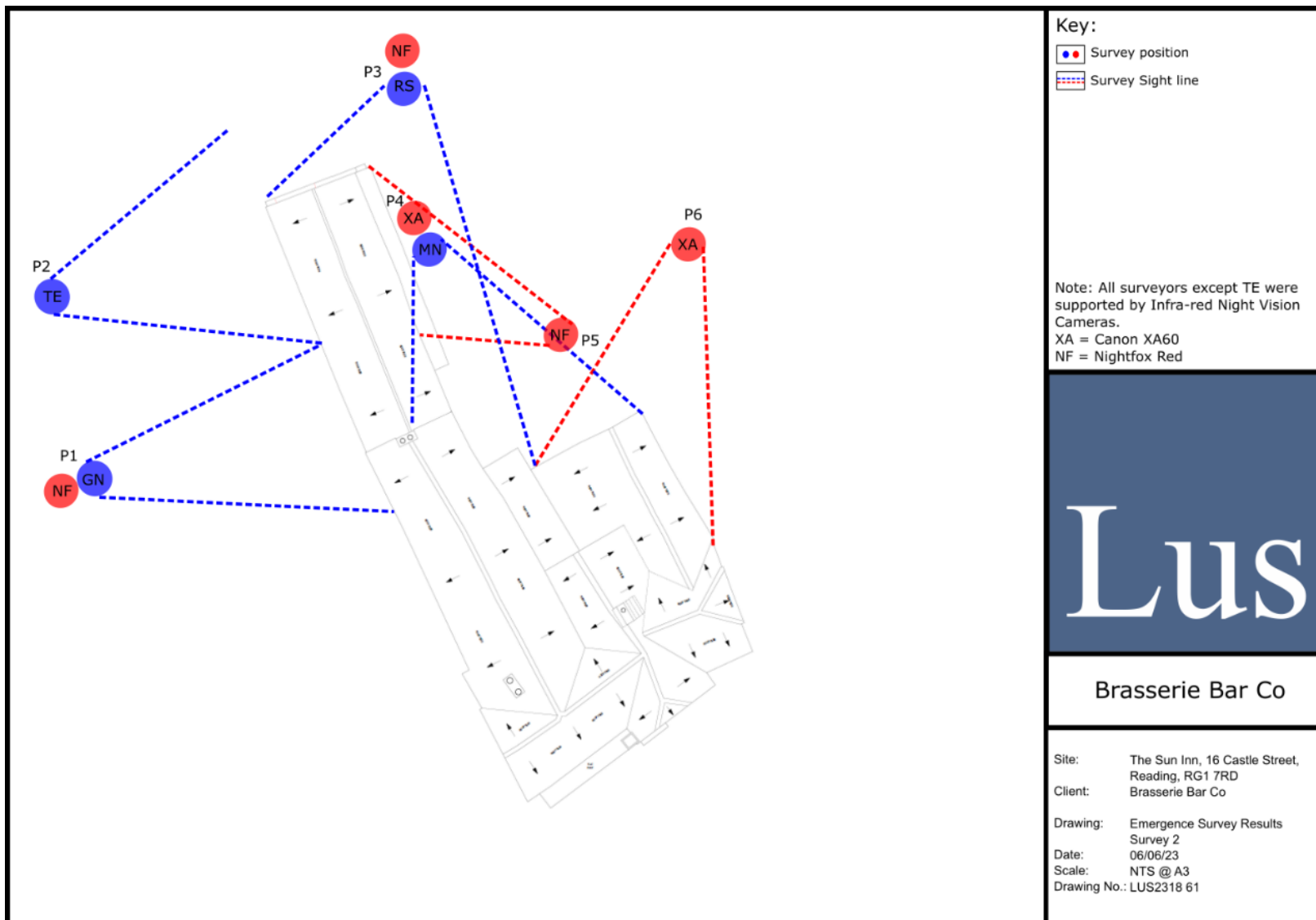
- 5.26 Where an important call (additional species to the Site, species on the edge of its range, and/or rare species) could not be determined using the above approach, analysis and determination of the call was also manually attempted in Kaleidoscope Pro.
- 5.27 Infra-red cameras recorded video and sound in real time. The video data was viewed to cross reference surveyor observations. Video data was played back using VLC Media player. Video analysis was carried out by Greg Nightingale and Tilly Edwards.

Appendix B: Preliminary Roost Assessment Assess Plan



Appendix C: Bat Emergence Survey Results





Appendix D: Legislation and Planning Policy

1. The following local policy, national planning policy and legislation relating to nature conservation and biodiversity status, are considered of relevance to the current proposal.

Planning and Biodiversity

2. Local Authorities have a requirement to consider biodiversity conservation issues when determining planning applications.
3. The following natural environment policies from the Royal Borough of Windsor and Maidenhead Borough Local Plan 2013 – 2033 are of relevance to the Site:
 - Policy SP2: Climate Change
 - Policy QP2: Green and Blue Infrastructure
 - Policy NR2: Nature Conservation and Biodiversity
 - Policy NR3: Trees, Woodlands and Hedgerows
 - Policy EP1: Environmental Protection
 - Policy EP3: Artificial Light Pollution
4. Chapter 15, Conserving and Enhancing the Natural Environment of the National Planning Policy Framework (NPPF) includes the following:

“174. Planning policies and decisions should contribute to and enhance the natural and local environment by:

- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

175. Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing

networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

179. To protect and enhance biodiversity and geodiversity, plans should:

- a) 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*
- b) 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.*

180. When determining planning applications, local planning authorities should apply the following principles:

- a) 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;*
- b) 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), 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;*
- c) 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*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”*

Legislation and biodiversity

5. Certain species of animals and plants found in the wild in the UK are legally protected from being harmed or disturbed. These species are listed in the Wildlife and Countryside Act 1981 (as amended) or are named as European Protected Species (EPS) in The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (as amended). These two main pieces of legislation have been consulted when writing this report and are therefore described in detail within this section.
6. Other relevant legislation and policy documents that have been consulted include:
 - Protection of Badgers Act (1992)
 - The Countryside and Rights of Way Act 2000
 - The Hedgerow Regulations 1997

- Biodiversity Action Plans, both UK-wide (UKBAP), Local plans (LBAPs) and similar nature partnership plans.

Wildlife & Countryside Act 1981 (as amended)

7. The Wildlife & Countryside Act 1981 (as amended; WCA) is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part I within the Act outlines the protection of wildlife.
8. Most offences are now covered under The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (as amended), but some 'intentional' acts are still covered under the WCA, such as obstructing access to a bat roost.
9. The provisions relating to animals in the WCA only apply to 'wild animals'; these are defined as those that are living wild or were living wild before being captured or killed. It does not apply to captive bred animals being held in captivity.
10. There are 'defences' provided by the WCA. These are cases where acts that would otherwise be prohibited by the legislation are permitted, such as the incidental result of a lawful operation which could not be reasonably avoided, or actions within the living areas of a dwelling house.
11. Certain prohibited actions under the WCA may be undertaken under licence by the proper authority. For example, scientific study that requires capturing or disturbing protected animals can be allowed by obtaining a licence.

Natural Environment and Rural Communities (NERC) Act

12. The UK Post-2010 Biodiversity Framework, which supersedes UK Biodiversity Action Plan (UK BAP) priority habitats and species, provides the 'broad enabling structure for action across the UK', which in England is interpreted into Biodiversity 2020: A strategy for England's wildlife and ecosystem services; however, some authorities do still refer to BAPs. Protecting habitats and species listed on Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006 is an outcome of this strategy. The lists of priority habitats and species in England required under S41 were published by Natural England in May 2014. These measures are given due acknowledgement where relevant.

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (as amended)

13. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (as amended; The Regulations), which are the principal means by which the EC Habitats Directive is transposed in England and Wales update the legislation and consolidate all the many amendments which have been made since they were first made in 1994.
14. The Regulations provide for the:
 - Protection of European Protected Species (EPS; animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain), including: bats, hazel dormice, great crested newts, otters, sand lizard, and smooth snake

- Designation and protection of domestic and European Sites (e.g., Site of Special Scientific Interest (SSSI), Special Area of Conservation (SAC), Special Protected Areas (SPA)
 - adaptation of planning controls for the protection of such sites and species
15. Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in exercising their function (e.g., when determining a planning application).
16. There is no defence that an act was the incidental and unavoidable result of a lawful activity.
17. It is possible for actions which would otherwise be an offence under The Regulations to be undertaken under licence issued by the proper authority. For example, where an EPS has been identified and the development risks deliberately affecting an EPS, then a 'development licence' may be required.

Species Protection

18. The following protected species information is relevant to this report. Legislation is only discussed in relation to planning and development; other offences may exist.

Bats

19. All British bats are classed as EPS and therefore receive protection under The Regulations, making it an offence to:
- Deliberately kill, injure, or capture a bat.
 - Deliberately disturb bats.
 - Damage or destroy a breeding site or resting place of a bat.
20. In addition, all British bats are also listed under Schedule 5 of the WCA, which contains further provisions making it an offence to intentionally or recklessly:
- Obstruct access to any structure or place which any bat uses for shelter or protection.
 - Disturb any bat while occupying a structure or place which it uses for that purpose.
21. If proposed development work is likely to destroy or disturb bats or their roosts, then a licence will need to be obtained from Natural England, which would be subject to appropriate measures to safeguard bats.

Birds

22. In the UK, the provisions of the Birds Directive are implemented through the WCA and The Regulations. All wild birds, their nests and eggs are protected, and it is an offence to:
- Kill, injure, or take any wild bird.
 - Take, damage or destroy the nest of any such bird whilst it is in use or being built.
 - Take or destroying an egg of any such wild bird.
23. The law covers all species of wild birds including common, pest or opportunistic species. Special protection against disturbance during the breeding season is also afforded to those species listed on Schedule 1 of the Act.