



Preliminary Ecological Appraisal and Preliminary Roost Assessment

Battleaxes, Bristol Road, Wraxall, Bristol, BS48 1LQ

Studio Hive Ltd.

Status	Issue	Name	Date
Draft	1	Katy Perry BSc (Hons) MCIEEM, Senior Consultant	13/08/2022
Final	2	Katy Perry BSc (Hons) MCIEEM, Senior Consultant	14/08/2022
Amended	2.1	Katy Perry BSc (Hons) MCIEEM, Senior Consultant	27/02/2023

Arbtech Consultant's Contact Details:

Katy Perry BSc (Hons) MCIEEM
Senior Consultant

Tel: 07874 871 273 Email: katyperry@arbtech.co.uk

<https://arbtech.co.uk>

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Industry Guidelines and Standards

This report has been written with due consideration to:

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

Proportionality

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

This approach is enshrined in Government planning guidance, for example, paragraph 174 of the National Planning Policy Framework for England.

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

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Studio Hive Ltd. to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at Battleaxes, Bristol Road, Wraxall, Bristol, BS48 1LQ (hereafter referred to as “the site”). The survey was required to inform a planning application for the renovation and development of the site for a new mix of uses including community hub, farm shop, cafe, studio spaces and artisans’ studios together with overnight accommodation (hereafter referred to as “the proposed development”).

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 7 of this report.

Feature	Foreseen impacts	Recommendations <i>Measures required to adhere to guidance, legislation, and planning policies.</i>
<p>Designated Sites: The site is not subject to any statutory designation.</p> <p>There are no statutory designated sites within 2km of the site.</p> <p>The site lies within 10km of the North Somerset and Mendip Bat SAC.</p>	<p>No direct impacts to any designated sites will occur as a result of the proposed development. However, due to the proximity of the site to North Somerset and Mendip Bat SAC and the nature of the proposed development could result in the destruction of bat roosts within the site.</p>	<p>The Local Planning Authority (LPA) may be required to undertake a Habitat Regulations Assessment (HRA) to determine whether there could be any effect on nearby European sites as a result of the proposed development.</p> <p>The Local Planning Authority (LPA) may be required to consult with Natural England regarding potential impacts to the SAC.</p>
<p>Roosting bats: Building 1 and Building 2 have high value for roosting bats.</p> <p>There are slipped, broken and missing tiles present on both buildings and feeding remains within both buildings.</p> <p>The lofts could not be safely accessed in B1 and there were droppings confirming bat presence within B2.</p> <p>Seven EPSLs were identified within 2km of the site for the destruction of resting places for numerous</p>	<p>Bats are very unlikely to be roosting</p> <p>The proposed development will result in the renovation and repairs to this building, including the roof. This will result in damage and destruction of any bat roosts present and could cause disturbance, death, or injury to bats.</p>	<p>Three bat emergence and re-entry surveys are required during the active bat season (May – September) to characterise the roosts present. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive.</p> <p>One of these surveys should be a dawn re-entry survey or infra-red cameras should be used as an aid. Surveys should be a minimum of two weeks apart.</p> <p>A minimum of seven surveyors are required to provide full coverage of Building 1 and two surveyors for Building 2.</p> <p>Surveys are likely to be required before planning permission can be granted.</p> <p>An EPSL application to Natural England will be required. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</p>

<p>species, including Annexe II species, the greater horseshoe, and lesser horseshoes.</p> <p>Due to the numerous features on both buildings, these could support different species.</p>		<p>A Material Changes Check will be required within three months of the EPSL submission if no survey work has been undertaken within that period. If bat droppings were found during the PRA, a sample will need to be sent off for DNA analysis to confirm the bat species present, to inform the EPSL application.</p>
<p>Roosting bats: Building 3 has moderate value for roosting bats.</p> <p>There are slipped and missing tiles and access into the building.</p>	<p>The proposed development will result in the renovation and repairs to this building. This could result in damage and destruction of any bat roosts present and could cause disturbance, death, or injury to bats.</p>	<p>Two bat emergence and re-entry surveys are required during the active bat season (May – September) to confirm presence or likely absence of a bat roost in the building. Both of the surveys should be completed during the optimal survey period mid-May to August inclusive.</p> <p>One of these surveys should be a dawn re-entry survey or infra-red cameras should be used as an aid. Surveys should be a minimum of two weeks apart.</p> <p>Two surveyors are required to provide full coverage of the building. Surveys are likely to be required before planning permission can be granted.</p> <p>If bat roosts are confirmed in the building one additional survey will be required to inform an EPSL application to Natural England. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</p>
<p>Foraging and commuting bats: Scattered trees and the species poor hedgerow could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.</p>	<p>The proposed development will result in the loss of small areas of trees and species poor hedgerow but given their low value and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats.</p> <p>The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.</p>	<p>A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures:</p> <ul style="list-style-type: none"> • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. <p>Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers, and shields. Lights will also be directional to ensure that light is directed to the intended areas only.</p>

		<p>External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on.</p> <p>Wall lights and security lights will be ‘dimnable’ and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.</p>
<p>Badgers: Badgers are unlikely to be sheltering on site, and no evidence of badgers was observed on site due to the presence of hard standing and buildings.</p>	<p>No impacts are anticipated on badgers as a result of the proposed development.</p> <p>However, due to the suitable surrounding habitat badgers could commute through site.</p>	<p>Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures:</p> <ul style="list-style-type: none"> • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. <p>In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist.</p>
<p>Nesting birds: Only swifts were observed during the survey due to the persistent rain during the survey.</p>	<p>Trees and species poor hedgerow will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally.</p> <p>However, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.</p> <p>An active bird’s nest was present on B1, and an old bird’s nest was present on B3.</p>	<p>Works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the building and vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.</p>

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Studio Hive Ltd. to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at Battleaxes, Bristol Road, Wraxall, Bristol, BS48 1LQ (hereafter referred to as “the site”). The survey was required to inform a planning application for the renovation and development of the site for a new mix of uses including community hub, farm shop, cafe, studio spaces and artisans’ studios together with overnight accommodation (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. The aim of the PRA was to determine the presence or evaluate the likelihood of the presence of roosting bats, and to gain an understanding of how bats could use the site for roosting, foraging, or commuting.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author’s knowledge, by any other consultancy. However, an arboricultural survey was undertaken at the same time by Arbtech Consulting Ltd and should be read in conjunction with this report.

1.2 Site Context

The site is located at National Grid Reference ST 49538 71515 and has an area of approximately 0.4ha comprising three buildings (B1 the large former public house, B2 known as the Wendy house and B3 the garage and storage area), hard standing, scattered trees, tall ruderals, species poor hedgerow and amenity grass. It is surrounded by residential properties to the south and south-west, with arable fields in the wider landscape and a large woodland to the north of the site.

A site location plan is provided in Appendix 2.

1.3 Scope of the Report

The PEA element of this report describes the baseline ecological conditions at the site, evaluates habitats within the survey area in the context of the wider environment and describes the suitability of those habitats for notable or protected species. It identifies possible ecological constraints as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

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

To achieve this, the following steps have been taken:

- A desk study has been carried out.

- A field survey has been undertaken to record baseline information on the site and surrounding area including habitat types and their suitability for notable or protected species, including roosting bats.
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Potential impacts on features of value, as a result of the proposed development, have been identified.
- Recommendations for further surveys and mitigation have been made.
- Opportunities for the enhancement of the site for biodiversity have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a review of the magic.gov.uk database for statutory designated sites within a 2km radius of the site. Landscape value and the presence of notable habitats as well as granted European Protected Species Licence (EPSL) and notable species records held on magic.gov.uk database has also been considered where these are within influencing distance of the site.

2.2 Field Survey

The survey was undertaken by Katy Perry BSc (Hons) MCIEEM, Senior Consultant (Natural England Bat Licence Number: 2022-10404-CL18-BAT) on 2nd August 2022

Preliminary Ecological Appraisal

An extended habitat survey was undertaken, following the methodology set out in *Phase 1 Habitat Survey Methodology* (JNCC, 2010). All land parcels are described and mapped and, where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure, and management. Botanical species lists were compiled with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).

During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species.

Preliminary Roost Assessment

The PRA focussed on three built structures and scattered trees around site which will be affected by the proposed development as well as providing an overview of the wider site and the surrounding landscape for bat roosting, foraging and commuting habitat.

For any surveyed buildings:

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

For any surveyed trees:

A visual inspection was undertaken from ground level using binoculars and, where accessible and safe to do so, an internal inspection of any features which bats could use for roosting was completed using an endoscope, torch, and ladders.

Suitability Assessment

Built structures and trees were categorised according to the likelihood of bats being present and the types of roost that the identified features could support. This is summarised in Table 1 for buildings and Table 2 for trees below. Roost suitability is classified as high, moderate, low, and negligible and dictates any further surveys required before works can proceed.

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

Classification	Feature of building and its context
Moderate to high	Buildings or structures with features of particular significance for larger numbers of roosting bats e.g., mines, caves, tunnels, icehouses, and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g., broadleaved woodland, tree-lined watercourses, and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g., river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data). Buildings with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Low	A small number of possible roost sites or features, used sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities, or upwards orientation with exposure to inclement weather or predators. Habitat suitable for foraging in close proximity, but isolated in the landscape. Or an isolated site not connected by prominent linear features. Few features suitable for roosting, minor foraging, or commuting.
Negligible	Unsuitable for use by bats.

Table 2: Features of a tree that are correlated with use by bats

Classification	Feature of tree and its context
Moderate to high	A tree 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. Trees with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Low	A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential to be used sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities, or upwards orientation with exposure to inclement weather or predators.
Negligible	Unsuitable for use by bats.

2.3 Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

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

The loft spaces within B1 could not be fully accessed for the survey. Some of the loft hatches were left open during the survey and these had photographs taken from the hatch entrances, but the height of the ceilings made the loft hatches inaccessible. In addition, in B1, there are two loft hatches for the building which are only accessible from the second storey on the exterior of the building, which were unable to be accessed during this survey. B2 had limited access due to it being used as a storage space and having locked doors across most of the building.

These limitations have been taken into account during the evaluation of the site and requirement for further surveys and mitigation.

3.0 Results and Evaluation

3.1 Designated Sites

No statutory designated sites were identified within 2km of the site. However, the site lies within 10km of the North Somerset & Mendip Bat Special Area of Conservation (SAC).

3.2 Field Survey Results

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

Table 3: Weather conditions during the survey

Date: 02/08/2022	
Temperature	20°C
Humidity	61%
Cloud Cover	100%
Wind	1mph
Rain	Drizzle

Habitats and Flora

The following habitats are present within and adjacent to the site:



- J3.6 buildings
- J4 hard standing
- J2.5 wall
- J2.2.2 species poor hedgerow
- C3.1 tall ruderals
- A3.1 broadleaved scattered trees
- J1.2 Amenity grass


A description and photographs of each habitat are provided in Table 4.

No protected or non-native invasive plant species (as listed under Schedules 8 or 9 of the Wildlife and Countryside Act 1981) were identified on the site.

Table 4: Description and photographs of habitats within and adjacent to the site

Habitat Type	Habitat description	Photograph
<p>J3.6 buildings J4 hard standing J2.5 wall</p>	<p>North-west of the site facing east</p> <p>The dominant habitats on the site are the three buildings (building 1 shown here) and hard standing which surrounds the buildings. The hard standing is of negligible ecological value. The buildings have been assessed for their suitability to support roosting bats in Table 5 below.</p> <p>There are some potted ornamental shrubs around the front (north) of building 1 which are of very low ecological value.</p>	
<p>J4 hard standing J2.5 wall C3.1 tall ruderals J1.2 amenity grass</p>	<p>North of site facing east</p> <p>The access to the site is off the B3130 which borders the north of the site. This leads into a large area of hard standing which is used as a car park. This extends to the south of the site, downhill.</p> <p>There are low lying walls around the site around the car park and the boundary which have some tall ruderals growing from it. This includes willowherb, curled dock, and some ornamental species. These are of low ecological value.</p> <p>The furthest east corner of the site has an area of amenity grass which has been neglected and grown long. It has a sward length of approximately over 15cm. This could support small mammals and invertebrates.</p>	

<p>J3.6 buildings J4 hard standing J2.5 wall J2.2.2 species poor hedgerow A3.1 broadleaved scattered trees J1.2 amenity grass</p>	<p>South-west of the site facing east</p> <p>There is hard standing to the south of the site. This has a species poor hedgerow running along the southern boundary of the site. This is predominantly hazel with some alder within and is likely to support nesting birds and therefore has moderate ecological value.</p> <p>There is a sloped bank of amenity grass with some scattered trees present within the middle of the car park. This has walls either side of the embankment. The trees are in good condition and have no features present that could support roosting bats. The trees on site include willow, cherry, alder, and birch.</p> <p>The rear of building three is visible within this shot and is assessed further within Table 5.</p>	
<p>J3.6 buildings J4 hard standing J2.5 wall C3.1 tall ruderals A3.1 broadleaved scattered trees</p>	<p>South-east facing north-west</p> <p>Within this image, all three buildings are shown: the garage/storage building (B3) to the far left, the Wendy house (B2) within the middle and the very complex former public house (B1) to the rear of the picture. The wall extending east from B2 along the carpark has some ivy coverage which could support nesting birds due to its density.</p> <p>There is a large amount of hard standing present on site which is of negligible ecological value.</p> <p>The cherry trees to the south-east of the site, although in poor condition, offer no suitable roosting features for bats and no wounds or cracks are present.</p>	

<p>J3.6 buildings J4 hard standing J2.5 wall C3.1 tall ruderals J1.2 amenity grass</p>	<p>East facing north-west</p> <p>The amenity grass has not been managed and has grown long to the east of the site. Species composition is poor, comprising predominantly perennial ryegrass and meadow grass species with occasional broad-leaved herbs such as curled dock and dandelion. Bramble was also present in this section and herb Robert amongst the grass and surrounding the steps which access this section of the site.</p> <p>The ivy-covered wall within the car park is more visible within this image. This has moderate ecological value.</p>	
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Fauna

Bats

There are seven EPSLs for bats within 2km of the site, for numerous species including lesser horseshoe, greater horseshoe, serotine, Brandt's, Whiskered, common, and soprano pipistrelle, and brown long-eared bats. There is very suitable habitat for foraging bats within the landscape with large woodlands, arable fields, hedgerow bordered fields and Land Yeo and water bodies within the surrounding area.

The results of the PRA are provided in Table 5. B1 had open loft hatches and therefore the building was accessible within, and scattered feeding remains were found throughout the building. However, the loft spaces were not accessed properly. B2 had feeding remains, bat droppings and moths and butterflies present within. B3 was not fully accessible but had many spaces in which bats could access the building.

Table 5: Assessment of the suitability of the site for bats

Feature Ref	Description	Photographs
B1 (exterior)	<p>South-western elevation</p> <p>B1 is a very complex building with many different roof heights, pitches, numerous chimneys, extensions, and a poor condition roof.</p> <p>The roof is clad with clay tiles across the building complex, and there are several slipped, raised, broken or missing tiles across the entire building.</p> <p>The building has stone and brick work and some of the sections across the building are rendered. The walls of the building are in good condition with no obvious cracks, gaps or missing mortar which could be utilised by roosting bats.</p>	
B1 (exterior)	<p>South-western section of the building</p> <p>The brickwork on the chimneys appears to be in good condition, but tiles and lead flashing around the bases is not flush and there are gaps which could allow ingress.</p> <p>The tiles on all elevations are in poor condition, in particular in the highlighted section of this image which has missing tiles here.</p> <p>The walls and wooden framed windows and doors, however, appear to be in great condition with no gaps around or missing mortar.</p>	

<p>B1 (exterior)</p>	<p>South-eastern elevation</p> <p>The brickwork, stonework and rendering around the property is in consistent good condition with no missing mortar or cracks within.</p> <p>The wooden framed windows and doors have no gaps around and there are no missing panes of glass that would allow entry into the building.</p>	
<p>B1 (exterior)</p>	<p>Eastern elevation</p> <p>The south-east of the building has a glass extension present, which is in very good condition with no means of ingress. This has a solid, flat roof which is in good condition.</p> <p>The tiles present on this elevation are also in poor condition with many slipped or raised.</p> <p>In addition, there were swifts flying under the eaves of the gable end of the building as circled in red.</p>	

<p>B1 (exterior)</p>	<p>North-eastern elevation</p> <p>The front of the property is adjacent to the main road. The gable ends of the roof appear to be in good condition, and the windows and doors also appear secure with no gaps around.</p> <p>The tiles on the front of the property are in equally poor condition with slipped and raised tiles, in particular among the valleys of the roof.</p>	
<p>B1 (exterior)</p>	<p>North-western elevation</p> <p>The north-western elevation is mainly rendered brickwork, and this is in very good condition with no gaps or cracks present. There are wooden boards present as features on the walls, but these lie flush to the building with no gap's underneath.</p> <p>Internally, this main section of the building has a partly vaulted ceiling. The small sections of loft either side are to be accessed from loft hatches which are present externally on the second floor – as circled in red here, which was not possible during the survey.</p>	

B1 (exterior)

South-western elevation taken from the second storey

This image shows the number of slipped and broken tiles present on the roof which could all allow ingress into the building or loft spaces.





B1 (exterior)



North-western section



This doorway present within the gable end of the second storey is to enable access into the loft space. This was not possible during the survey due to a lack of safe access to this doorway.

In addition, there are numerous slipped tiles visible on the roof.



<p>B1 (interior)</p>	<p>Within B1, there are numerous different loft spaces present due to the complex nature of the building and the various different pitched roofs.</p> <p>The loft hatches were open within the building and were very high due to the height of the ceilings within the building. Some photographs were able to be taken from the tops of the ladders, but there were no means of safe access into any of the loft spaces.</p> <p>Most of the gable ends of the lofts appeared to be in good condition with no light entering or visible missing mortar on the gable brickwork.</p> <p>The rear of the tiles appears to be lined with a lime/cement mixtures as shown in the image opposite. This was in varying conditions within the loft spaces of B1.</p>	
<p>B1 (interior)</p>	<p>As shown in this image, some of the lining of the loft spaces has fallen away due to the inclement weather which must enter the roof due to the missing, slipped, raised or broken tiles. Here, light from outside is entering the loft space due to the absence of tiles on the exterior.</p>	

<p>B1 (interior)</p>	<p>This loft space was in worse condition still and there is timber sarking present, but with numerous small gaps between the boards.</p> <p>The timber beams within the loft spaces appear to be in good condition and from what was visible within, there were no gaps between the timber joints which could be utilised by crevice dwelling bats.</p> <p>The loft spaces, with the open loft hatches would reduce their suitability marginally for void-dwelling bats as it would allow for light to enter the loft voids from below and create temperature fluctuations.</p>	
<p>B1 (interior)</p>	<p>Feeding remains were found throughout the building, including within the stairwell to the ground floor – glass conservatory on the south-east of the building and on the carpeted floor of the second storey connected to where loft hatches had been left open.</p> <p>Butterfly and moth wings get left behind when bats feed and can be indicative of the presence of bats and a feeding roost.</p>	

<p>B1 (interior)</p>	<p>Within the conservatory style section to the north-east of the building, there is a secure flat roof, and the windows present around the perimeter are secure with no means of ingress and no leaks.</p> <p>The light levels within this section of the building would be sub-optimal for roosting bats.</p>	
<p>B2 (exterior)</p>	<p>South-western elevation</p> <p>The tiles present on B2 are in poor condition, in particular those along the ridges which is missing the mortar underneath, as seen in this image here.</p> <p>There are slipped and missing tiles across the roof.</p> <p>The brick and stonework around the building appears to be in good condition with no missing mortar. The windows and doors have some gaps, in particular a boarded window on the front which has a large gap present.</p>	

B2 (exterior)

South-eastern elevation

There are two storeys within the small building with a vaulted ceiling and no large loft space.

The stonework around the top of the building is in good condition and has no missing mortar.







B2 (exterior)



Northern elevation



The front of the building has an unusual, shaped window present in a dormer window. This is boarded up within but there is a gap present at the top which would allow ingress into the building.



<p>B2 (interior)</p>	<p>Within the building on the ground and second floor, there are numerous scattered wings (feeding remains) present. They are on the floor and caught in cobwebs present on the walls within.</p> <p>There were live peacock and red admiral butterflies and a herald moth sheltering within the building during the survey.</p>	
<p>B2 (interior)</p>	<p>On the second storey on the table surface there were bat droppings and feeding remains present together. Some of these have been highlighted in red to show more clearly in the image.</p>	

<p>B2 (interior)</p>	<p>In addition to the feeding remains and live insects within the building, the south-east corner of the building had a large pile of bat droppings present on the floor where a small hole in the roof was directly above.</p>	
<p>B3 (exterior)</p>	<p>Eastern Elevation - front</p> <p>The garage/storage area was mostly locked during the survey. The door furthest south was the only door opened during the survey to allow access. The wooden doors appear to be secure with no gaps and the barge board also lies flush.</p> <p>The roof tiles, as with B1 and B2, are in equally poor condition, with slipped and missing tiles present across the roof.</p>	

<p>B3 (exterior)</p>	<p>Western elevation – the rear</p> <p>The rear of the property shows the mixed stone and brickwork around the building. However, this is in good condition with no missing mortar or gaps between.</p> <p>The tiles on the rear of the roof are in equally poor condition as the front and sides, with numerous slipped, raised, broken or missing tiles which could allow bats entry into the building.</p>	
<p>B3 (exterior)</p>	<p>Northern elevation</p> <p>There is a gap between the brickwork and the roof on the northern elevation of the building which contained an old bird's nest within, as shown opposite.</p>	

<p>B3 (interior)</p>	<p>The ceiling within B3 is vaulted and there is no loft space present. Only the southern most section of the building was accessible due to doors being locked on the building.</p> <p>The building was filled with stored items and materials. Some of the materials were dirty and may have been brought in from other locations and therefore if any bat droppings or feeding remains were found (of which none were in the third of the building surveyed) there would be no guarantee they had come from inside the building.</p>	
<p>B3 (interior)</p>	<p>The timbers are modern and in good condition with no gaps between the joints or warping present which would be suitable for crevice dwelling bats.</p> <p>There is also no lining present on the rear of the tiles and therefore any gaps on the exterior lead into the building, reducing the suitability of the building for crevice dwelling bats overall.</p> <p>There is some light cobwebbing present amongst the ridge beams, which could indicate a lack of void-dwelling bats such as brown long-eared bats, but they were sparse and light as the interior of the building is subject to frequent disturbance within.</p>	

Other Species

There were no EPSLs returned for protected species, other than bats, within 2km of the site. There were pond survey data returns for the presence of GCN within 2km, which are over 650m east of the site. In 2014 and 2016, GCN were recorded to be present in the ponds over 650m east of the site.

An assessment of the suitability of the site for protected or notable species is provided in Table 6.

Table 6: Assessment of the suitability of the site for protected or notable species

Species	Assessment of suitability
Amphibians	There are no ponds within 500m of the site. There are also no EPSLs for great crested newts within 2km of the site. There are pond survey data returns for the presence of GCN within two ponds over 650m east, from 2014 and 2016. Between the ponds and the site are arable fields which will be subject to disturbance and there is a band of woodland between the site and the ponds. The woodland would provide suitable habitat for sheltering and potentially overwintering amphibians and therefore likely to remain within a smaller buffer zone of the ponds than to commute further to suboptimal habitats with no ponds present. In addition, there is a main road present along the northern and north-eastern boundary of the site which is a significant barrier to dispersal and the site is predominantly hard standing which is of negligible ecological value for amphibians.
Reptiles	The habitats on site are suboptimal for reptiles with the dominant habitats comprising buildings and hard standing. There is a small section of unmanaged amenity grass which is surrounded by walls, hard standing and the main road and therefore unlikely to support reptiles in a small, isolated section of habitat.
Badgers	No evidence of badgers was observed on site. No latrines, hairs, or setts were observed. The site, being predominantly hard standing is suboptimal for badgers and therefore unlikely to be present on site. However, the surrounding habitat is suitable for badgers and therefore they could commute through the site.
Hazel Dormouse	There are large woodlands to the north and north-east of site. The site lacks any suitable vegetative structure or complexity to support the dormice lifecycle and it also lacks and connectivity to the woodlands in the surrounding area and therefore dormice are not considered to be present on site. Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation; the species poor hedgerow on site lacks the structure and connectivity. Furthermore, for isolated habitats in the UK, research indicates that dormice require 20ha of woodland habitat to support a viable population (Bright <i>et al.</i> 1994). 20ha of woodland is not present on or directly adjacent to the site or connected to the site through hedgerows.
Hedgehog	There is some suitability for hedgehogs on the site within the species poor hedgerow, but the main road, hard standing and stone walls around the site and surrounding area are likely to prevent commuting for hedgehogs through the area and the dominant habitats are suboptimal for hedgehogs.
Riparian mammals	There are no waterbodies on or adjacent to the site that would be suitable to support otter or water vole and therefore are not considered to be a constraint.
Birds	Swifts were present in the eaves of B1, and an old nest was observed within B3. The trees, hedgerow and ivy on the wall offer some suitability for nesting birds.
Invertebrates	With the dominant habitats on site are negligible for notable or protected species. There is some vegetation, but it is common and widespread within the local area.

4.0 Conclusions, Impacts and Recommendations

4.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 4.

Likelihood of the Presence of Protected Species

Where physical evidence of the presence of protected species is indeterminate during the survey, the habitats on site are evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat.

Where this report supports a planning application, the ecological interest of the study area (i.e., the area covered by the desk study and field survey), and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity.

4.2 Evaluation

Taking the desk study and field survey results into account, Table 7 presents an evaluation of the ecological value of the site and also details any ecological constraints identified in relation to the proposed development which will comprise the renovation and development of the site for a new mix of uses including community hub, farm shop, cafe, studio spaces and artisans' studios together with overnight accommodation.

Table 7: Evaluation of the site and any ecological constraints

Ref	Summary of Survey Findings	Foreseen Impacts	Recommendations <i>Measures required to adhere to guidance, legislation, and planning policies.</i>	Biodiversity Enhancements <i>The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021)</i>
Designated sites	<p>The site is not subject to any statutory designation.</p> <p>There are no statutory designated sites within 2km of the site.</p> <p>The site lies within 10km of the North Somerset and Mendip Bat SAC.</p>	No direct impacts to any designated sites will occur as a result of the proposed development. However, due to the proximity of the site to North Somerset and Mendip Bat SAC and the nature of the proposed development could result in the destruction of bat roosts within the site.	<p>The Local Planning Authority (LPA) may be required to undertake a Habitat Regulations Assessment (HRA) to determine whether there could be any effect on nearby European sites as a result of the proposed development.</p> <p>The Local Planning Authority (LPA) may be required to consult with Natural England regarding potential impacts to the SAC.</p>	None.
Habitats and flora	<p>There are no notable habitats within the site, but ancient woodland and deciduous woodland habitats are present within 2km, north of the site, the closest being deciduous woodland located 40m from the site.</p> <p>No protected or notable plant species were recorded during the survey.</p>	No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the residential location of the site with surrounding physical barriers.	The Local Planning Authority (LPA) may request an Arboricultural Assessment to determine impacts on trees.	<p>The following habitat creation and enhancement opportunities could be incorporated into the proposed development:</p> <ul style="list-style-type: none"> • Native tree, hedgerow, and shrub planting. • Creation of wildflower grassland. • A green roof on new buildings. <p>Species-specific enhancement opportunities are detailed later in this table.</p>
Amphibians	Amphibians, including great crested newts, are unlikely to be present on site due to the suboptimal habitats, the main road along the northern boundary and the absence of ponds within 500m of site.	No impacts are anticipated on amphibians, including great crested newt, as a result of the proposed development.	None.	None.
Reptiles	Due to the lack of suitable habitats on site, reptiles are not	No impacts are anticipated on reptiles as a result of the proposed development.	None.	None.

	considered to be present or pose a constraint to the work.			
Roosting bats (B1 and B2)	<p>Building 1 and Building 2 have high value for roosting bats.</p> <p>There are slipped, broken and missing tiles present on both buildings and feeding remains within both buildings.</p> <p>The lofts could not be safely accessed in B1 and there were droppings confirming bat presence within B2.</p> <p>Seven EPSLs were identified within 2km of the site for the destruction of resting places for numerous species, including Annexe II species, the greater horseshoe, and lesser horseshoes.</p> <p>Due to the numerous features on both buildings, these could support different bat species.</p>	<p>Bats are very unlikely to be roosting</p> <p>The proposed development will result in the renovation and repairs to this building, including the roof. This will result in damage and destruction of any bat roosts present and could cause disturbance, death, or injury to bats.</p>	<p>Three bat emergence and re-entry surveys are required during the active bat season (May – September) to characterise the roosts present. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive.</p> <p>One of these surveys should be a dawn re-entry survey or infra-red cameras should be used as an aid. Surveys should be a minimum of two weeks apart.</p> <p>A minimum of seven surveyors are required to provide full coverage of Building 1 and two surveyors for Building 2.</p> <p>Surveys are likely to be required before planning permission can be granted.</p> <p>An EPSL application to Natural England will be required. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</p> <p>A Material Changes Check will be required within three months of the EPSL submission if no survey work has been undertaken within that period. If bat droppings were found during the PRA, a sample will need to be sent off for DNA analysis to confirm the bat species present, to inform the EPSL application.</p>	To be confirmed upon completion of the surveys.
Roosting bats (B3)	<p>Building 3 has moderate value for roosting bats.</p> <p>There are slipped and missing tiles and access into the building.</p>	<p>The proposed development will result in the renovation and repairs to this building. This could result in damage and destruction of any bat roosts present and could cause disturbance, death, or injury to bats.</p>	<p>Two bat emergence and re-entry surveys are required during the active bat season (May – September) to confirm presence or likely absence of a bat roost in the building. Both of the surveys should be completed during the optimal survey period mid-May to August inclusive.</p>	To be confirmed upon completion of the surveys.

			<p>One of these surveys should be a dawn re-entry survey or infra-red cameras should be used as an aid. Surveys should be a minimum of two weeks apart.</p> <p>Two surveyors are required to provide full coverage of the building.</p> <p>Surveys are likely to be required before planning permission can be granted.</p> <p>If bat roosts are confirmed in the building one additional survey will be required to inform an EPSL application to Natural England. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.</p>	
<p>Foraging and commuting bats</p>	<p>Scattered trees and the species poor hedgerow could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.</p>	<p>The proposed development will result in the loss of small areas of trees and species poor hedgerow but given their low value and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats.</p> <p>The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.</p>	<p>A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures:</p> <ul style="list-style-type: none"> • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. <p>Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers, and shields. Lights will also be directional</p>	<p>The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats:</p> <ul style="list-style-type: none"> • Planting of native tree, shrub, and hedgerows to increase foraging opportunities.

			<p>to ensure that light is directed to the intended areas only.</p> <p>External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on.</p> <p>Wall lights and security lights will be 'dimnable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.</p>	
Badger	<p>Badgers are unlikely to be sheltering on site, and no evidence of badgers was observed on site due to the presence of hard standing and buildings.</p>	<p>No impacts are anticipated on badgers as a result of the proposed development.</p> <p>However, due to the suitable surrounding habitat badgers could commute through site.</p>	<p>Owing to the nature of the proposed development and the low potential for impacts to badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures:</p> <ul style="list-style-type: none"> • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist. 	<p>The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for badgers:</p> <ul style="list-style-type: none"> • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities.
Hazel dormouse	<p>Dormice are unlikely to be present on site due to the lack of</p>	<p>No impacts are anticipated on hazel dormice as a result of the proposed development.</p>	<p>None.</p>	<p>None.</p>

	suitable habitat on site and adjacent.			
Hedgehog	Hedgehogs are unlikely to be on site due to the hard standing and buildings, and the main road adjacent to the site.	No impacts are anticipated on hedgehogs as a result of the proposed development.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: <ul style="list-style-type: none"> • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
Riparian mammals	There are no watercourses on or adjacent to site to support otter or water vole.	No impacts are anticipated on otters or water vole as a result of the proposed development.	None.	None.
Birds	Only swifts were observed during the survey due to the persistent rain during the survey.	Trees and species poor hedgerow will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally. However, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. An active bird's nest was present on B1, and an old bird's nest was present on B3.	Works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the building and vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.	The installation of a minimum of three bird boxes on mature trees around the site boundaries or on retained buildings will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings) Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain, and strong sunlight. Small-hole boxes are best placed approximately 1-3m above

				<p>ground on an area of the tree trunk where foliage will not obscure the entrance hole.</p> <p>Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.</p>
Invertebrates	<p>There are no habitats present on site to support notable or protected invertebrates due to the dominant habitats on site being hard standing and buildings.</p>	<p>No impacts are anticipated on notable species or populations of invertebrates as a result of the proposed development.</p>	None.	<p>The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for invertebrates:</p> <ul style="list-style-type: none"> • Native tree, hedgerow, and shrub planting. • Creation of wildflower grassland. • A green roof on new buildings. • Retention of deadwood on the site.

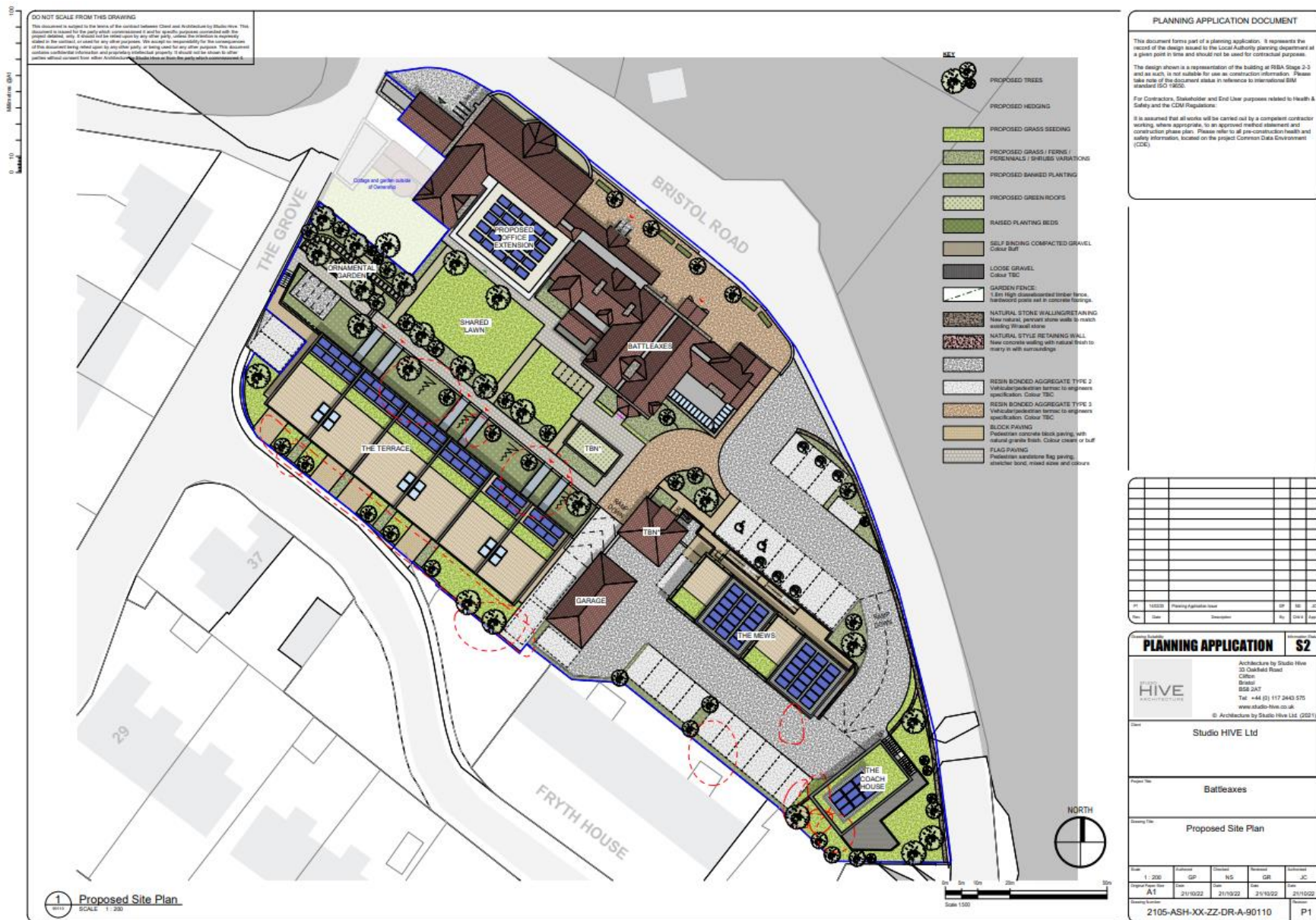
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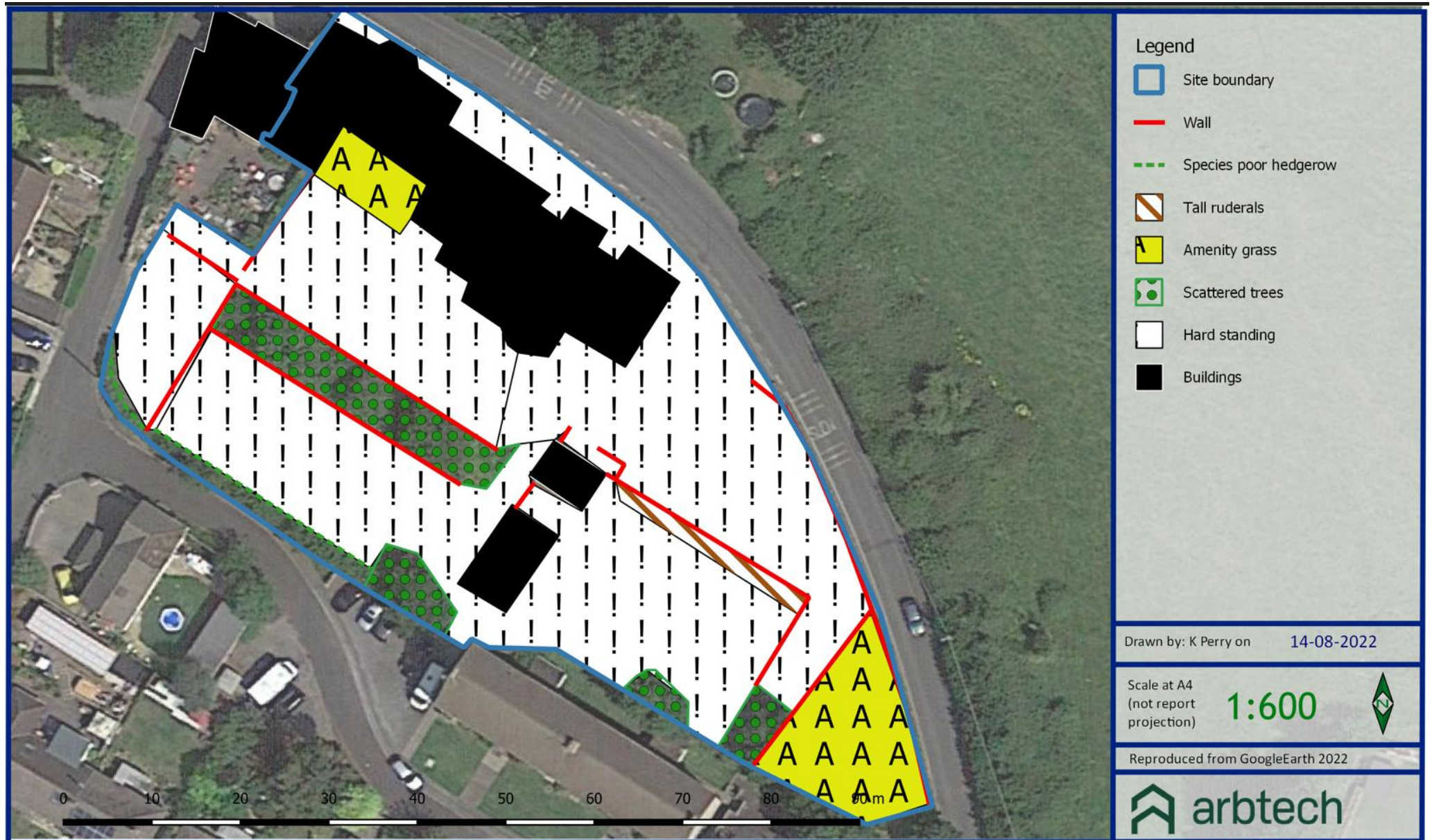
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3a: Habitat Survey Plan



Appendix 3b: PRA Survey Plan



Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds (the Wild Birds Directive) respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as Sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many Annex II species): a strict protection regime must be applied across their entire natural range, both within and outside Natura 2000 sites.

Annex V species (over 90): their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

The Conservation of Habitats and Species Regulations 2017 (as amended) form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12 nautical miles in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as “*areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres*”.

However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CROW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites.

The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g., SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education, and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are designed to protect 'important' countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies, or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species***The Conservation of Habitats and Species Regulations 2017 (as amended)***

The Conservation of Habitats and Species Regulations 2017 (as amended) aims to promote the maintenance of biodiversity by requiring the Secretary of State to take measures to maintain or restore wild species listed within the Regulations at a favourable conservation status.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CRoW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act 1992 which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure, or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett or any part thereof
- Intentionally or recklessly disturb a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses, or has under his control, a live badger

Effects on development works:

A development licence will be required from the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) for any development works likely to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance has been issued by the countryside agencies to define what would constitute a licensable activity. It is no possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests, and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure, or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage, or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer, or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- Intentionally or recklessly obstruct or prevent any wild bird from using its nest (Scotland only)

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and are commonly referred to as “Schedule 1” birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional, or reckless disturbance whilst lekking
- In Scotland only, intentional, or reckless harassment

Effects on development works:

Works should be planned to avoid the possibility of killing or injuring any wild bird or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Amphibians and Reptiles

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:

- To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
- To impair their ability to hibernate or migrate
- To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA, and they are additionally protected from:

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

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e., the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g., survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard, and slow worm, thus avoiding contravention of the WCA.

Water Voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

- Intentionally kill, injure, or take (capture) water voles
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection
- Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection

Effects on development works:

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g., the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and

translocation of water voles may be issued by the relevant countryside agency for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works likely to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species (e.g., All bats)
- Deliberate disturbance of bat species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) will be required for works are likely to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Hazel Dormice

Hazel dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - To impair their ability to hibernate or migrate
 - To affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works:

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require a European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e., Natural England, Natural Resources Wales (NB: Hazel Dormouse are entirely absent from Scotland)). The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White Clawed Crayfish

There is a considerable amount of legislation in place in an attempt to protect the White-clawed crayfish *Austropotamobius pallipes*. This species is listed under the European Union's (EU) Habitat and Species Directive and is listed under Schedule 5 of the Wildlife and Countryside Act (1981). This makes it an offence to:

- Protected against intentional or reckless taking

- Protected against selling, offering, or advertising for sale, possessing or transporting for the purpose of sale

It is also classified as Endangered in the IUCN Red List of Endangered Species. As a result of this and other relevant crayfish legislation such as the Prohibition of Keeping of Live Fish (Crayfish) Order 1996, a series of licences are needed for working with White-clawed and non-native crayfish. These are:

- A licence to handle crayfish (therefore survey work) in England
- A licence for the keeping of crayfish in England and Wales with an exemption for Signal crayfish (England).
- People in the post-code areas listed with crayfish present prior to 1996 do not need to apply for consent for crayfish already established. It does not, however, allow any new stocking of non-native crayfish into waterbodies. Consent for trapping of non-native crayfish for control or consumption is most likely to be granted in Thames and Anglian regions in the areas with "go area" postcodes.
- Harvesting of crayfish is prohibited in much of England and in any part of Scotland and Wales.

Effects on development works:

The relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag, or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation Afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering, or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof

- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
- Deliberately pick, collect, cut, uproot, or destroy a wild Schedule 5 species
- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

A European Protected Species Licence (EPSL) will be required from the relevant countryside agency (i.e., Natural England, Natural Resources Wales, Scottish Natural Heritage) for works which are likely to affect species of plants listed on Schedule 5 of the Conservation of Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*
- Giant hogweed *Heracleum mantegazzianum*
- Himalayan balsam *Impatiens glandulifera*

Effects on development works:

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site, however, it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g., earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any landowner or occupier may be required prevent the spread of certain 'injurious weeds' including (but not limited to):

- Spear thistle *Cirsium vulgare*
- Creeping thistle *Cirsium arvense*
- Curled dock *Rumex crispus*
- Broad-leaved dock *Rumex obtusifolius*
- Common ragwort *Senecio jacobaea*

Effects on development works:

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

NATIONAL PLANNING POLICY (ENGLAND)

Environment Act 2021

The Environment Act 2021 (EA 2021) received Royal Assent on 9 November 2021 and is expected to become fully mandated within the next couple of years. The Act principally creates a post Brexit framework to protect and enhance the natural environment. Through amendments to the Town and Country Planning Act 1990, the Act will require all planning permissions in England (subject to exemptions which is likely to include householder applications) to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity net gain plan. This will ensure the delivery of a minimum of 10% measurable biodiversity net gain. The principal tool to calculate this will be the Defra Biodiversity 3.0 Metric. Works to enhance habitats can be carried out either onsite or offsite or through the purchase of 'biodiversity credits' from the Secretary of State. However, this flexibility may be removed (subject to regulations) if the onsite habitat is 'irreplaceable'. Both onsite and offsite enhancements must be maintained for at least 30 years after completion of a development (which period may be amended).

National Planning Policy Framework 2021

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

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

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

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

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

EUROPEAN PROTECTED SPECIES POLICIES

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

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

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