Ecological Impact Assessment

Michael Shearwood

The Mill House Knights Mill, St Teath, Bodmin, Cornwall, PL30 3JE

Status	Issue	Name	Date
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Arbtech Consultant's Contact Details:

Merry Anderson
Ecologist
Tel: 07706323240 **Email:** merryanderson@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.
>
> 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 Michael Shearwood to undertake an Ecological Impact Assessment comprising Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) and Bat Emergence surveys at The Mill House Knights Mill, St Teath, Bodmin, Cornwall, PL30 3JE (hereafter referred to as "the site"). The survey was required for the development of an extension to link between two detached buildings (hereafter referred to as "the proposed development"). Final plans have not yet been finalised for the new building linking to B2.

The following is work you will need to commission to comply with planning policy and legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 10 of this report.

Feature	Survey Results Summary	Impact Assessment	Recommendations
Habitats and Flora	The development site contains no notable habitats, comprising developed land and sealed surface, however broadleaf woodland and a watercourse are present in the area surrounding work site which are listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006).	The proposed development will result in the loss of ~100m^2 of sealed tarmacadam surface. This is likely to have a minimal impact on biodiversity due to the low ecological value of these habitats. All vegetated habitat and trees surrounding the development site will be retained.	Best practice measures to minimise the possibility of pollution must be implemented during construction. Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012).
Roosting bats B1 The Stables and B2 The Mill House	Roost 1: Species: common pipistrelle bat Peak count: 108 Roost type: large maternity roost. Roost 2: Species: Whiskered myotis bat Peak count: 20 Roost type: small maternity roost. These roosts are considered to have moderate conservation value, in line with the Bat Mitigation Guidelines (English Nature, 2004).	The erection of the new extension building will impact the gable to the east of B1 and the northwest gable of B2. These are access points to the roost sites. Works to these features could cause disturbance, death or injury to bats.	An EPSL application to Natural England will be required to legally permit the proposed works. The EPSL application requires that surveys be undertaken within the most recent active bat season (optimal May to August, suboptimal September). Planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission, where possible to do so. A Material Changes Check will be required within three months of the EPSL submission if no survey work has been undertaken within that period. The EPSL will detail any mitigation and compensation measures that will be required for the proposed development to comply with the standing advice and

			will be designed to reduce any impacts to an acceptably low level to maintain (or enhance) the Favourable Conservation Status (FCS) of the local bat population. Full details are shown in Table 10
Amphibians and Reptile/Badgers and Hedgehogs	The development site has no suitable habitat to support these species, however, there presence is anticipated in the surrounding area. As such, there presence in close proximity to the site cannot be discounted.	Site excavations may result in the entrapment, injury or death of animals.	A precautionary working method will be implemented during construction. Further details are shown in Table 10.
Nesting birds	No vegetation will be removed from site, however, works to B2 will result in the modification of the northwest gable roof. This was observed to have nesting blue tits at the time of the survey. One conifer tree was assessed as poor and will require reduction.	One conifer tree will be reduced 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 of a breeding site for bluetits in building B2.	Roof works to building B2 should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the building 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.

Contents

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Michael Shearwood to undertake an Ecological Impact Assessment (EcIA) at The Mill House Knights Mill, St Teath, Bodmin, Cornwall, PL30 3JE (hereafter referred to as "the site"). The survey was required for the development of an extension to link between two detached buildings (hereafter referred to as "the proposed development").

An outline plan showing the proposed development is provided in Appendix 1. Detailed plans are pending the information provided in this report. As such, new plans will be included when available.

The aim of the EcIA was to obtain data on existing ecological conditions, 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 with regards to the significance of ecological impacts from the proposed development. The results of phase 2 surveys (bat emergence surveys) have been included within the report. A walkover survey was conducted for impacts on other habitats and notable and protected species.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author's knowledge, by any other consultancy.

1.2 Site Location and Landscape Context

The site is located at National Grid Reference SX07088065 at Knightsmill in Cornwall. The site comprises 3 detached buildings, barns and extensive gardens and grounds set in approximately 1.0ha. Within the site is an area of woodland and wetland, part of the River Camel Valley and Tributaries SSSI and SAC which extends north to south along the eastern boundary. To the west of the site is a leat, which was once used to power the old watermill. A lake has been created to the 250m north of the site in adjacent land, fed from the river Allen which once directly served the leat. Small watercourses are present in the gardens and woodland within the site.

The wider landscape comprises arable and pastoral grazing pasture with hedgerows and tree lines connecting small pockets of woodland. The site is well connected to the surrounding landscape to the north and west however the A39 and adjoining Knights Mill Hill road has severed the site to the south and east. A site location plan is provided in Appendix 2.

1.3 Scope of the Report

The EcIA 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 roost assessment 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.

Existing biological records including bats and birds within a 5km radius were obtained from ERCCIS.

2.2 Field Survey

The Ecological Impact Assessment comprises a Preliminary Ecological Appraisal, Preliminary Roost Assessment and Phase 2 Bat Emergence surveys. The preliminary surveys were undertaken by Merry Anderson (Natural England Bat Licence Numbers: 2023-11015-CL19-BAT**,** 2023-11014-CL20-BAT GCN license number: 2022-10738-CL08-GCN) on 19/05/2023.

The phase 2 surveys were conducted on 26/05/2023, 09/06/2023 and the 23/06/2023.

Preliminary Ecological Appraisal

An extended habitat survey was undertaken, following the methodology set out in *UK Habitat Classification User Manual* (UK Habitat Classification Working Group, 2018). 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 2 built structures B1 the Stables and B2 the Mill House, and 1 tree 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.

<u>For any surveyed buildings</u>:

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

<u>For any surveyed trees</u>:

A visual inspection was undertaken from ground level using binoculars to identify any possible roost features.

<u>Suitability Assessment</u>

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 and Table 2 below. Roost suitability is classified as high, moderate, low and negligible and dictates any further surveys required before works can proceed.

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

Classification	***Feature of building and its context***
High	Buildings or structures with features of particular significance for larger numbers of roosting bats e.g. mines, caves, tunnels, icehouses and cellars. Habitat on site and surrounding landscape of high quality for foraging bats e.g. broadleaved woodland, tree-lined watercourses and grazed parkland. Site is connected with the wider landscape by strong linear features that would be used by commuting bats e.g. river and or stream valleys and hedgerows. Site is proximate to known or likely roosts (based on historical data). Buildings with high suitability could support roosts of high conservation value such as maternity or hibernation roosts.
Moderate	Buildings or structures with one or more features suitable for more regular roosting due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation value such as maternity or hibernation roosts. Continuous habitat connected to the wider landscape which could be used by bats for commuting such as lines of trees, linked gardens. Foraging habitat in the surrounding area such as trees, scrub, grassland or water.
Low	Buildings or structures with one or more features suitable for use sporadically by individual or small numbers of bats. Potential roost features may be suboptimal for reasons such as shallow depth, poor thermal qualities or upwards orientation with exposure to inclement weather or predators. Habitat suitable for foraging in close proximity, but largely isolated in the landscape. Or an isolated site not connected by prominent linear features.
Negligible	Unsuitable for use by bats.

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

Classification	***Feature of tree and its context***
Moderate to high (Difficult to separate moderate or high value trees from ground level without a close-up inspection)	A tree with one or more potential roost sites that are obviously suitable for use by 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 Bat Emergence and Re-entry Surveys (BERS)

Three BERS, comprising three dusk emergence surveys (in line with the BCT interim guidance for NVAs), were undertaken of buildings B1 and B2, as per the recommendations from the Preliminary Roost Assessment. The surveys involved surveyors positioned around the buildings ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the building identified as providing suitable access points to bat roosts which will be impacted in the proposed development. Each surveyor was assigned an area of the buildings to observe for the duration of the survey.

Surveyors used heterodyne and frequency division bat detectors, and Echo Meter Touch detectors connected to iPads or Android tablets. Bat echolocation calls recorded during the surveys were analysed using Wildlife Acoustics sound analysis software Kaleidoscope V3.1.7 when required. The Echo Meter Touch includes an auto ID function for bat species; however this is not 100% accurate and further post-survey sound analysis is often required to confirm species that could not be identified by the auto ID software during the survey. Surveyors also used head torches, survey record sheets and pens/pencils for recording all activity observed during the surveys. Each surveyor was also provided with a handheld radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the buildings.

2 infrared recording kits and a thermal camera was set up to monitor the buildings during the BERS. This comprised Nightfox Corsac and Nightfox Whisker IR binoculars set up on a tripod with two separate infrared lamps on a second tripod to provide additional illumination. A Hikmirco Thermal monocular was also deployed. Analysis of the footage was subsequently undertaken to detect roosting activity.

Dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility. Surveys were a minimum of two weeks apart.

Surveys were completed during optimal weather conditions i.e., when temperatures were above 10^{o}C, with no rain or strong winds (greater than 5m/s), as these adverse weather conditions can impact upon bat emergence and foraging behaviour. Periods of high moon illuminance (>80%) were also avoided insofar as possible as this can reduce bat activity.

2.4 Surveyors

A total of three surveyors were used to cover both buildings. The name, bat licence details or level of bat survey experience and the designated position of each surveyor during each survey is detailed in the tables in Section 3.1 below and shown on the plan in Appendix 3c.

2.5 Bat Roost Characterisation

When bat roosts are present, the bat surveys undertaken at a site facilitate the characterisation of the roost type. This allows for appropriate mitigation and compensation to be designed to inform a European Protected Species Licence (EPSL) application to Natural England.

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust (BCT) publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, 2016).

Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.

Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.

Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.

Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites

Mating sites: sites where mating takes place from later summer and can continue through winter.

Maternity roost: where female bats give birth and raise their young to independence.

Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

2.6 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.

B1 has a vaulted ceiling so access to inspect the roof interior was not possible.

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

Details of any statutory and non-statutory designated sites within a 2km radius of the site, including their reasons for notification, are provided in Table 3 below.

The site lies within the impact risk zone for River Camel Valley and Tributaries Site of Special Scientific Interest (SSSI). All development is listed as a possible high risk with regard to this designation.

Table 3: Statutory and non-statutory designated sites within 1km/2km radius of the site

Designated site name	Distance from site	Reasons for notification from Natural England The Cornwall Council Interactive Map
River Camel Valley and Tributaries Site of Special Scientific Interest (SSSI)	Within the site	The Rivers Camel, Allen and tributaries, their associated woodlands, carr, fen, heath and wet meadows are of special interest for wildlife. The system is particularly important for otters which benefit from some of the most unspoilt river corridors in the South West with extensive woods, excellent bankside cover and little disturbance. Rare greater and lesser horseshoe bats Rhinolophus feed along the watercourses along with the kingfisher, dipper, grey wagtail and water vole which also breed.
River Camel Special Area of Conservation (SAC)	Within the site	The Camel represents otter in its main stronghold in England in the south-west of the country. Surveys have indicated a dense population along this river. The river and its tributaries represent the more upland as well as lowland habitat types utilised by otters, satisfying requirements for adequate food supply throughout the year. The wooded lower reaches of the river provide excellent habitat for resting and breeding.
Tower Wood to St Teath Country Wildlife site (CWS)	~200m south	No citation
Helstone Wood CWS	~1.5km north east	No citation

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 4.

Table 4: Weather conditions during the survey

Date:	19/05/2023
Temperature	18°C
Humidity	58%
Cloud Cover	27%
Wind	1mph
Rain	None

Habitats and Flora

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

- u1c artificial unvegetated, unsealed surface
- u1b5 buildings
- r2b other rivers and streams
- g4 66 modified grassland, frequently mown
- u1 vegetated garden
- g4 11 modified grassland, scattered trees

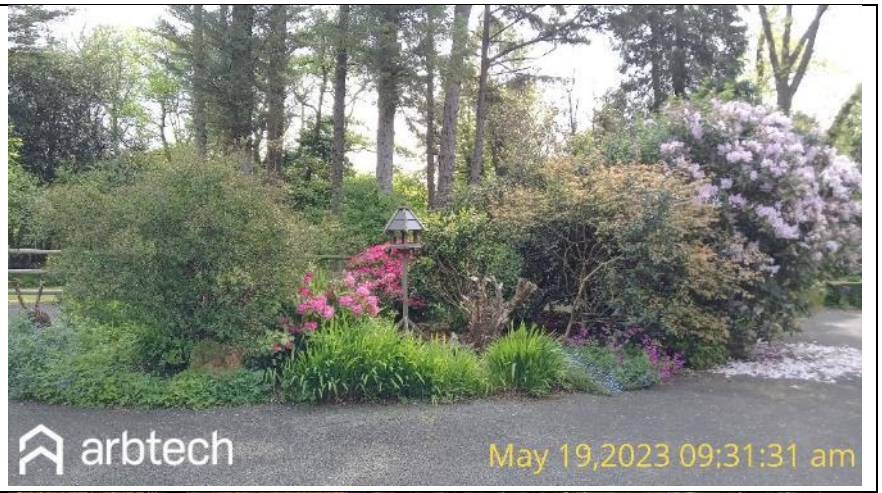
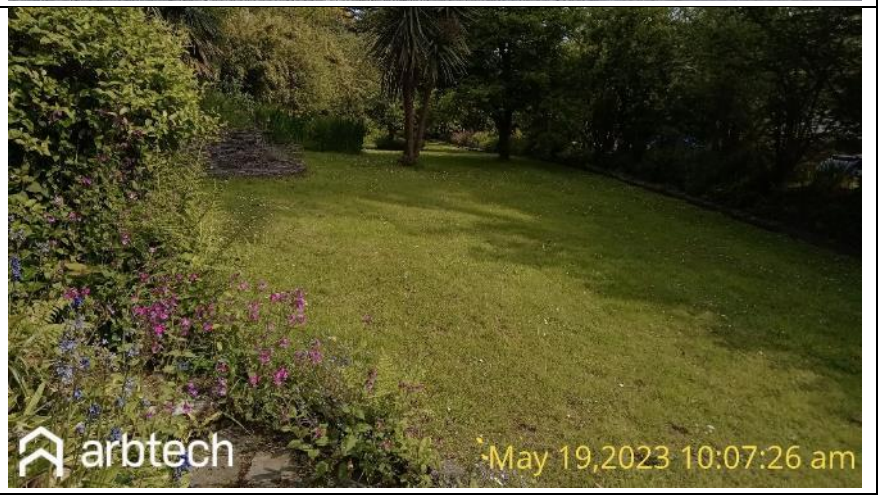
A description and photographs of each habitat are provided in Table 5.

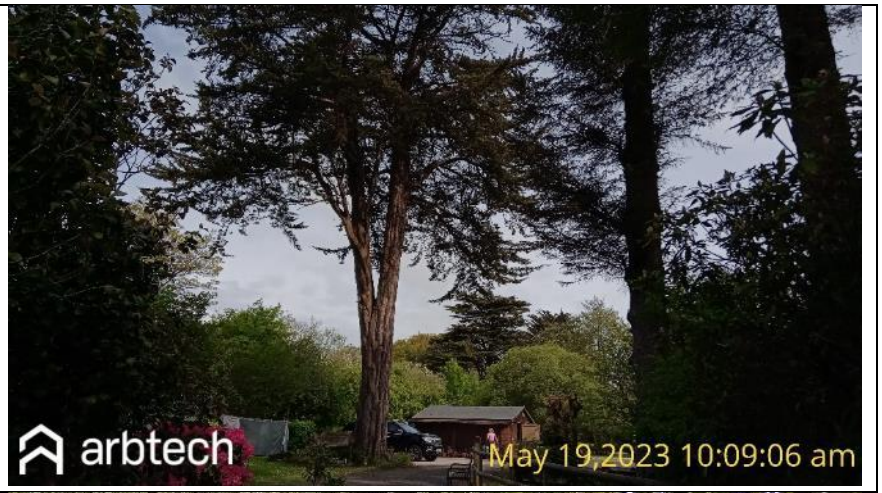
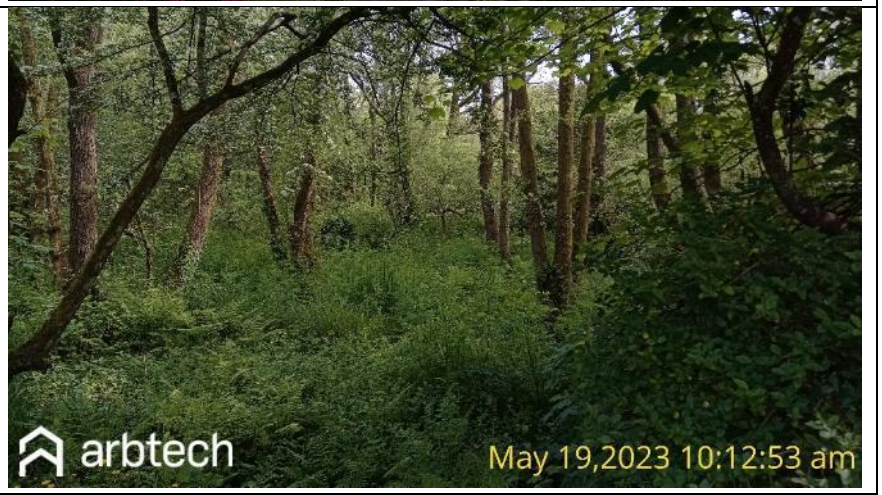
Himalayan Balsam (a non-native invasive plant species as listed under Schedules 9 of the Wildlife and Countryside Act 1981) was identified on the site.

Table 5: Description and photographs of habitats within and adjacent to the site

Habitat type	Habitat description	Photograph
u1c artificial unvegetated, unsealed surface u1b5 buildings	*Site looking southwest at proposed development area.* Pictured opposite is the area for the proposed development, comprising two detached buildings, B1 the Stables and B2 the Mill House and a large area of tarmacadam hard surface. The footprint of the new proposed extension will extend over the area of hard surface between the two buildings. There will be no encroachment into any adjacent habitats of vegetated garden or grassland.	

r2b other rivers and streams	*The leat and old watermill workings* Situated behind buildings B1 and B2 is a leat that extends along the western boundary. This is heavily vegetated with soft shield ferns (D), pendulous sedge (F), hemlock wdw (O), greater celandine (O), herb Robert (F) and lonicera (A). The banks of the leat are lined with holly, sycamore, Japanese acer and hazel with ornamental palms and bamboo. The water cascades into a channel that runs between the paving around the two buildings. The leat and surrounding vegetation will be unaffected in the proposed development.	

u1 vegetated garden g4 11 modified grassland, scattered trees	*Area of ornamental planting to the east of the development area.* Directly adjacent to the east of the proposed development is an island of ornamental shrub planting. A bird table located in the centre was in constant use by feeding birds during the survey. This area will be retained in the proposed development. Extending further east is an area of modified grassland with a collection of mature conifer trees. These will be retained in the proposed development. One of the trees has dry rot at the base and will be assessed by a qualified arboriculturist.	
g4 66 modified grassland, frequently mown	*Formal lawn extending to the north of the development site* To the north of the proposed development is an area of raised formal lawn with vegetated borders. The vegetation is predominantly wildflowers and naturally occurring flora and ferns. This is well managed and maintained to a high standard as ornamental boarders. Shrubs and trees line the perimeter of the lawn. This area will be unaffected in the proposed development.	

g4 11 modified grassland, scattered trees	*Large conifer to the north of the proposed development.* Directly to the north of the proposed development is a mature conifer. The retained seeds suggest this is a Monterey Cypress. This will be assessed and the root protection zone established by a qualified arboriculturist.	
River Camel Valley and Tributaries Site of Special Scientific Interest	*Woodland outside of the development area and site boundary.* Pictured opposite is the wet woodland that is part of the River Camel Valley and Tributaries Site of Special Scientific Interest. This habitat lies adjacent to the site boundary and will not be directly impacted by the proposed development however, the site is within the risk impact zone for this European designated site.	

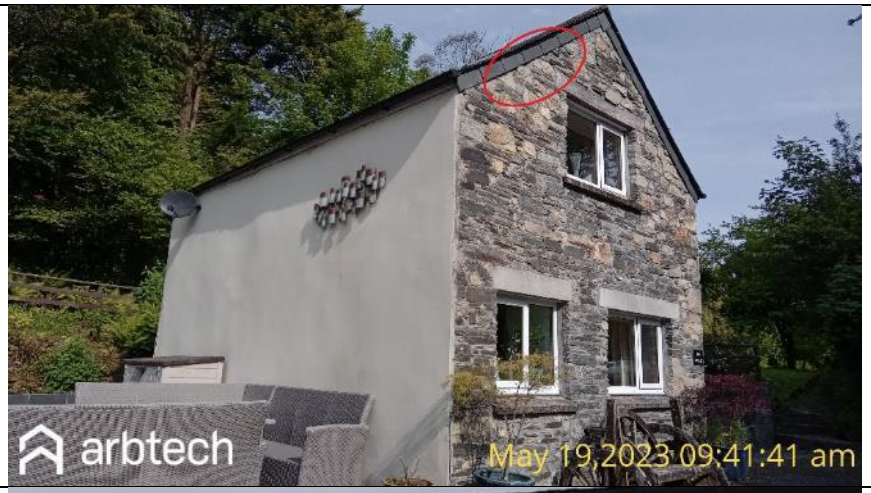
Fauna

Bats

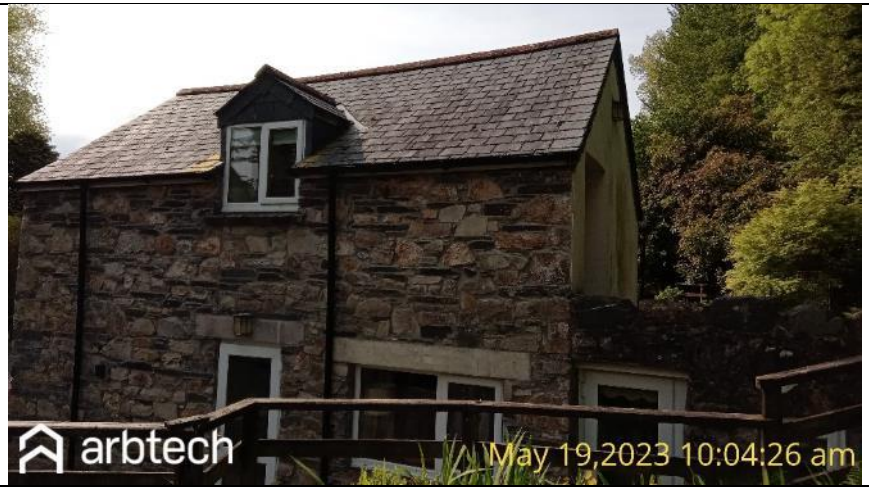
The results of the PRA are provided in Table 6.

Table 6: Assessment of the suitability of the site for bats

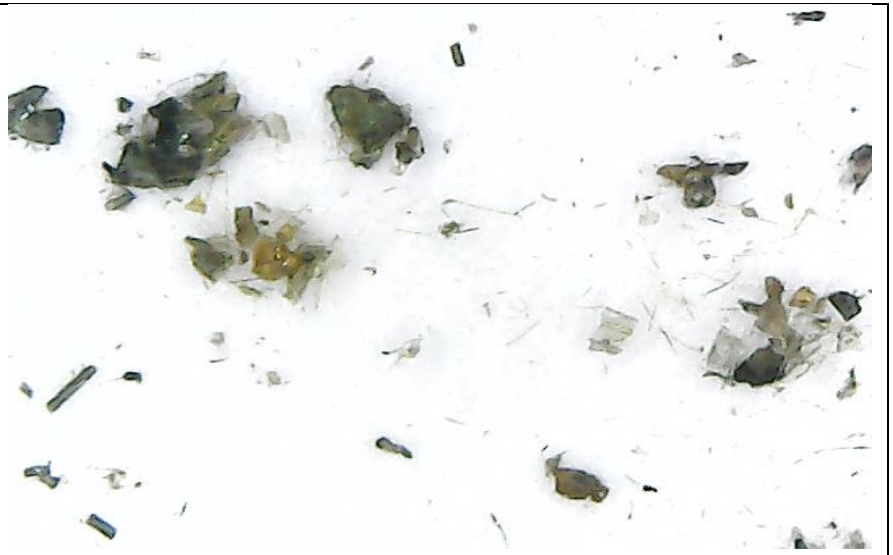
Feature	Description	Photographs
Historical records	A review of the Defra Magic database did not return any granted EPSL (European Protected Species Licences) within 2km of the site or for the site itself. A review of the biological data returned the following species within 5km of the site and within the last 10 years. Common pipistrelle, soprano pipistrelle, greater horseshoe, lesser horseshoe, brown long-eared bat, Daubenton's myotis, Natterer's myotis, Noctule, Western barbastelle and whiskered myotis. Roost records were returned for greater and lesser horseshoe bats within 5km southwest of the site. Further roost records for common pipistrelle, brown long-eared, Natterers and Daubenton's have been returned within 5 km of the site. The nearest roost to the site is 1km northwest of the site. This is a record from 2017 for brown long-eared bats. The nearest whiskered bat roost is located 1.7km north of the site. The nearest common pipistrelle roost is located 1.3km northeast of the site.	
Bat foraging and commuting habitat	The site is situated within the river Camel valley and is surrounded with trees, watercourses, pasture and agricultural land with hedgerows and woodland. The site is in optimal habitat for foraging and commuting bats. Pictured opposite is a field to the north of the site looking out onto woodland. Within the site, the wet woodland, tree lines and areas of shrubs and vegetated boards will provide an abundance of insect and invertebrate forage for bats.	

B1 -The Stables Southeast elevation	B1 is a two-storey detached building constructed from stone with rendered walls to the south and west. The roof is clad in slate tiles with hanging slates on the gable ends. The client has advised that B1 is a confirmed maternity roost for pipistrelle bats and is used every year. Bats are roosting in the roof on the wall tops, under the ridge line and under the slate tiles. Gaps between the hanging slates on the front east gable allow access into the roost (as circled in red). There is wooden fascia extending the north and south roof lines. This also has gaps which may be used by bats to access the internal roof structure. At the time of the survey only one dropping was retrieved from the rendered wall however, several droppings could be seen caught in cobwebs under the fascia on the southern elevation. The day after the survey, 30+ bats had returned to the roost.	
B1 – east elevation	Picture opposite is a close up of the gaps under the hanging slate tiles on the front gable of B1 allowing access under the hanging slates and onto the wall top for roosting.	

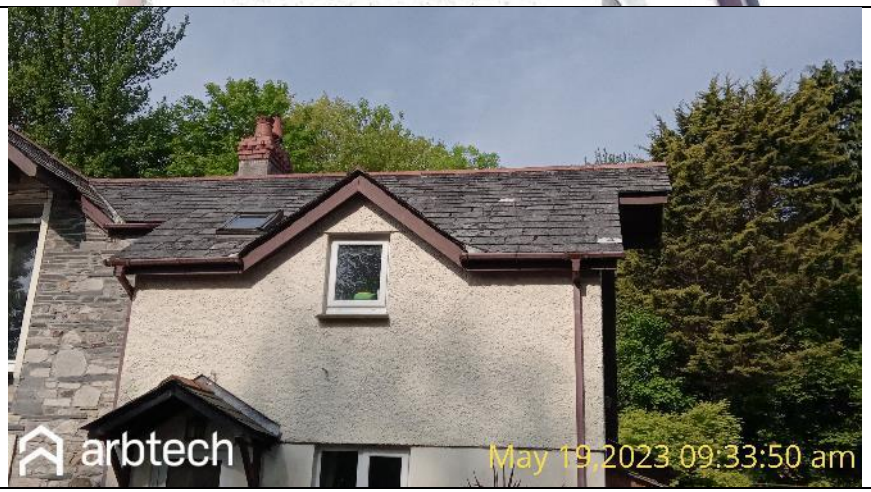
B1- south elevation wall	This photograph shows the gap between the fascia and the rendered wall on the south elevation. A small number of bat droppings were visible in cobwebs and the top of the wall.	
B1 – south elevation	Pictured opposite is a single bat dropping retrieved from the south elevation wall.	

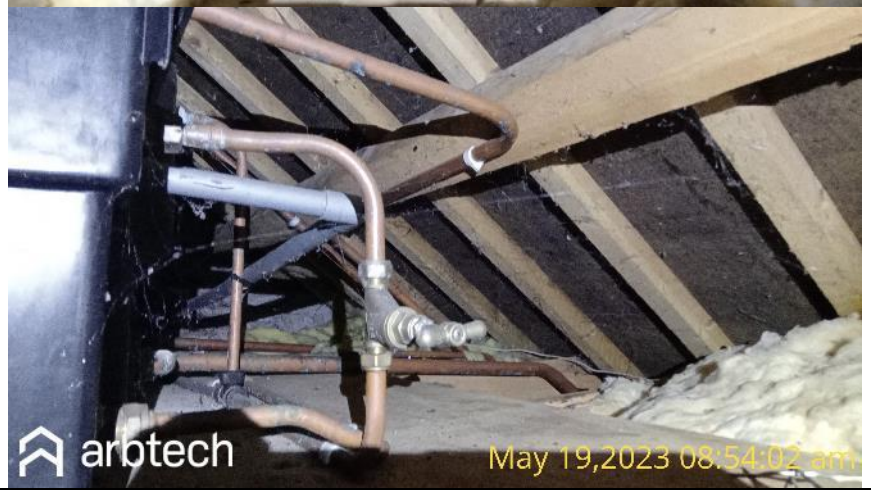
	The west elevation has a rendered wall and hanging tiles at the gable roof line. A small flat roof extension has a bitumen roof. The render on the walls has filled the gap under the hanging tiles. No roost features were identified on this elevation.	
	The roof tiles on the north elevation are in good condition. A dormer window is present which is in in good condition with flush lead flashing connecting the two roof sections. The ridge is well sealed to the roof line. There is a fascia extending the eaves of the roof which, similarly to the south elevation, does not site flush with the exposed stone wall, leaving gaps that may be exploited by roosting bats.	

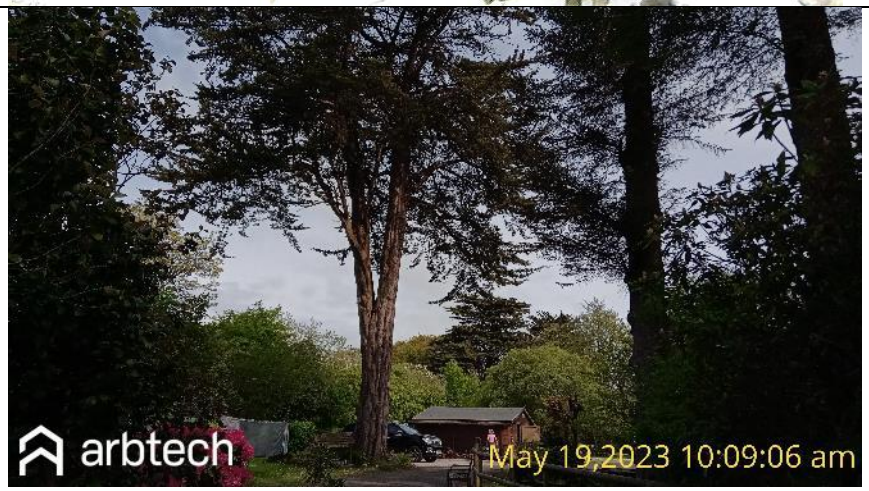
B1 -north elevation	Pictured opposite is a close up of the stone wall and fascia. Gaps leading under the fascia are visible. This would allow access onto the wall top and into the space between the tiles and roof lining.	
B1 internal	The internal roof of B1 is vaulted with no enclosed roof void. Bats will be utilising the gap between the slate tiles and plasterboard ceiling to roost within.	

B1 – suitability assessment	B1 is a confirmed bat roost. An examination of the dropping under magnification shows insect remains that are easily separated. This is typical of bats droppings that crumble to a fine dust. A sample of fresh droppings will be collected on the first emergence survey and retained for DNA analysis.	
B2 The Mill House North elevation	B2 is a two -storey dwelling constructed from rendered block. The roof is double pitched with gables ends to the north, cross gable dormers to the east and west and a hipped roof to the south with single storey extensions. The roof is clad in slate tiles with a concrete ridge. There is an extended apex to the roof on north elevation with wooden box soffit extending the gable ends. The proposed development will connect onto the north elevations of the roof.	

B2 north elevation close up	Pictured opposite is a hole between the slates and box soffit on the north west gable. This was being used by nesting blue tits at the time of the survey.	
B2 north elevation double gable	Pictured opposite is an area of raised flashing that may be used by crevice dwelling bats as an occasional roost. Typically lead is thermal retentive and can become inhospitable for roosting in high temperatures, however, can be used for short periods of time as a temporary roost. The roof tiles are in moderate condition with some areas where tiles have snapped. The tiles are flush to the roof with no visible gaps or lifted tiles suitable for bats to access the roof or roost under.	

B2 north elevation	Pictured opposite is the extended roof apex and box soffit. This is in good condition and sits flush with the external rendered wall. No gaps under the roof or around the box soffit were identified.	
B2 east elevation	The roof tiles are in good condition with no obvious signs of damage or lifted tiles. The ridge is intact and well connected to the roof line.	

B2 internal loft	There is a very small loft space within B2 which contained a water tank and pipework. It was only possible to photograph the roof void from the loft hatch. There were numerous droppings within the loft, most attributed to rodents, however a sample of droppings from around the loft hatch were recovered which appear to be bat droppings.	 

Bat droppings from loft of B2	This is a magnified image of one dropping recovered from the loft. Similarly to the dropping retrieved from the wall of B1, the dust contains fragments of beetle chitin, wings and antenna from insects. A sample of the droppings has been retained for DNA analysis.	
Trees	The trees around the site are a mixture of mature conifer and semi-mature broadleaf trees. No trees will be removed during the development. No features of bat roost value were identified in trees surrounding the development area.	

Other Species

An assessment of the suitability of the site for protected or notable species is provided in Table 7.

Table 7: Assessment of the suitability of the site for protected or notable species

Species	Assessment of suitability	Biological records data
Amphibians	There is one large waterbody located 240m to the north of the site which may be used by common amphibious species such as newt, frogs and toads however the presence of GCN is not anticipated due to a lack of natural distribution in Cornwall. The development area comprises hardstanding however, the surrounding woodland and grassland habitat connecting to the waterbody may be used by amphibians during their terrestrial phase and for dispersal after breeding. The leat and watercourses throughout the site are typically unfavourable for breeding amphibians due to the movement of water, however the presence of aquatic features within the surrounding habitats may attract amphibians into the work area.	The site is not within the known geographical range for Great Crested Newt (GCN)
Reptiles	The gardens and grasslands surrounding the development area provide habitat for foraging and basking reptiles. Hedgerows may be used for sheltering and commuting. The hardstanding provides negligible habitat for reptiles.	No EPSLs for rare reptiles were returned from a review of the Magic database.
Badgers and Hedgehog	Badgers and hedgehogs may be present within the wider landscape and may commute onto the site from the woodland and pasture to the north of the development area. The proposed works area of hardstanding offers no opportunity for foraging animals and no suitability for sett excavation or hibernacula. Badgers and hedgehogs may occasionally cross near to the development area whilst commuting through the grounds in search of foraging resources. No setts or field signs for badgers or hedgehogs were observed during the survey.	No BRD
Hazel Dormouse	The site contains woodland and hedgerow habitat that may be used by dormice with connectivity to a large expanse of broadleaf woodland to the northeast. As such there may be dormice present in the surrounding habitats. The work area of hardstanding has no suitable habitat for dormice.	No EPSLs for dormice were returned from a review of the Magic database.
Otter and water vole	The river Allen is a major tributary for the river Camel which is renowned for otters and water vole populations. Within the site the river feeds the leat, which powered the old water mill, and the small streams which are present within the wet woodland and ornamental Japanese gardens. It is not anticipated otters or water vole would use the watercourses onsite due to their small size and lack of foraging resources. The development site is in close proximity to the old mill workings and leat however, it is not anticipated otter or water vole would venture into the work area.	No EPSLs for otters were returned from a review of the Magic database. No BRD

Birds	The site has very high value for nesting birds which are encouraged into the site with various bird feeders and houses. Blue tits were observed nesting in the north gable end of B2 during the survey. The trees and shrub vegetation surrounding the development area offers opportunity for breeding birds. During the survey a nuthatch and jay were observed using the feeder and numerous small tits, wagtails and finches were seen within the gardens.	A review of the biological data returned records for birds including local priority species. Birds anticipated to use the site include barn owl, black Redstart, blackbird, bluetit, buzzard, coaltit, collared dover, dunnock, goldfinch, goldcrest, greater spotted woodpecker, green woodpecker, house martin, house sparrow, linnet, mistle thrush, nuthatch, wren, treecreeper, tawny owl, swift, swallow and skylark.
Invertebrates	The habitats within the site have high value for invertebrates. The floral vegetated borders and flowering shrubs support pollinating insects. There is abundant dead wood retained within the site for saproxylic species and beetles within the wilder areas of woodland. The development area comprises hardstanding and is of negligible value, however bees were observed using the crevices under the hanging tiles of B1 and some wild bees had moved into the eaves of the roof on B2.	No BRD

4.0 Bat Emergence Surveys

4.1 Survey Results

The results of each survey are provided in the tables below and shown on the plan in Appendix 3d. A maternity roost for common pipistrelle bats was confirmed in building B1 the Stables and a small satellite roost for common pipistrelle bats was confirmed in B2 the Mill House.

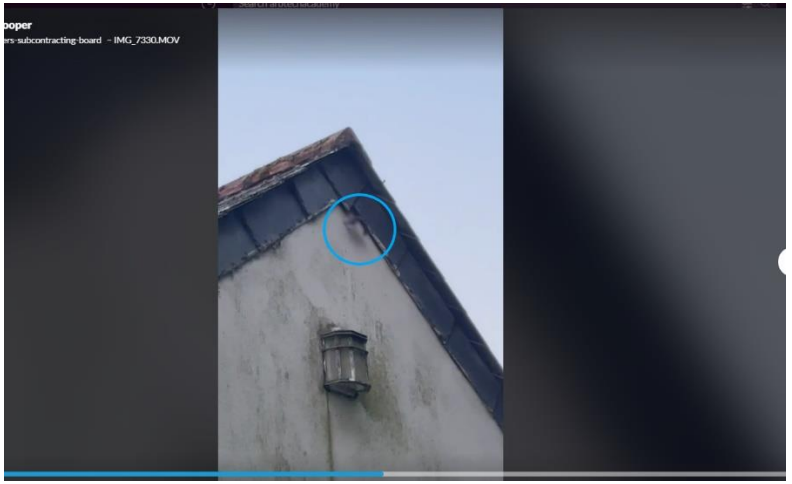
Table 7: Survey results (first visit)

Date		26/05/2023	
Building inspection prior to survey		The roost features identified during the PRA were subject to an inspection prior to the BERS to check for evidence of roosting bats. Fresh droppings were observed on the window ledges and walls on the gable ends of building B1.	
Start and end times		20.35 – 22.28 Sunset: 21.15	
Weather conditions		**Start:** Temp: 16^{o}C Relative Humidity: 65% Cloud Cover: 0 Wind: 2mph Rain: None Moon illuminance: 50%	**End**: Temp: 13^{o}C Relative Humidity: 76% Cloud Cover: 0 Wind: 2mph Rain: None Moon illuminance: 50%
Surveyor (position) **As shown in Appendix 3c**		**LEAD Name** – Merry Anderson Consultant Ecologist Bat Level 3/4 Survey Class Licence CL19 &CL20- Position 1 – observing the south and east elevation and roof structure of B1 **Surveyor Name** – Morwenna Cooper -2 years' bat survey experience - Position 2 – observing the north and west elevation and roof structure of B1 **Surveyor Name** -James Gilpin - Position 3 – observing the north elevation and roof structure of B2	
NVA position **As shown in Appendix 3c**		Position 1 - observing the north elevation and roof structure of B1 Position 2 – observing the south elevation and roof structure of B1 Position 3 -– observing the north elevation and roof structure of B2	
Building reference	**Surveyor position**	**Notes/observations:**	
B1 -The Stables	1	The first bat detected was a common pipistrelle commuting from west to east. This had emerged from the rear of the building (B1). **Between 21.14 and 21.40 a total of 41 common pipistrelle bats emerged from the east gable end and one from under the fascia on the south elevation**. Emergence locations are circled in blue.	

		 The bats flew directly east towards the woodland and river. At 21.40 pipistrelle bats emerging from building B2 were observed flying past B1 heading east. At 22.14 a noctule was detected. The bat was flying high and was heard but not seen. The last bat detected was a Natterers myotis at 22.23. **B1 is a confirmed maternity roost for common pipistrelle bats.**
B1-The Stables	2	**At 20.48 common pipistrelle bats were observed light sampling under the ridge tiles on the north elevation of B1.**

The first bat to emerge was at 21.11.

Between 21.11 and 21.44 43 common pipistrelle bats were observed emerging from the west gable apex from behind the cap tile.



At 21.41 common pipistrelle bats were observed flying past B1 having emerged from building B2.

At 22.04 a Daubenton's myotis was detected to the west, near the leat. The bat was heard but not seen.

At 22.21 a myotis bat was detected. This was the last bat of the survey.

B2-The Mill house	3	The first bat detected was at 21.12. The bat was a common pipistrelle having emerged from B1. Between 21.15 and 21.37 pipistrelle bats were detected and observed emerging from B1 and flying past B2. **At 21.40 2 bats were observed emerging from the right-hand gable of B2. These were unidentified due to the distance from the detector. A total of 6 bats were seen to emerge on the IR camera from this location (circled in blue). DNA analysis later confirmed these bats to be whiskered myotis.** Between 21.43 and 22.13 common pipistrelles were observed commuting south between the two buildings and over the Mill House. The last bat detected was a Daubenton's myotis at 21.14.  **B2 is a confirmed roost for whiskered bats.**
Other observations		A lack of other bats species was notable around the buildings, indicating there may be some territorial behaviour from the common pipistrelles around the maternity roost in the Stables B1.

Table 8: Survey results (second visit)

Date	09/06/2023	
Building inspection prior to survey	The roost features identified during the PRA were subject to an inspection prior to the BERS to check for evidence of roosting bats. Bat droppings from the common pipistrelle maternity roost in Stables B1 was collected for DNA analysis.	
Start and end times	21.09 – 22:32 Sunset: 21.28	
Weather conditions	**Start:** Temp: 22°C Relative Humidity: 55% Cloud Cover: 90% Wind: 5mph Rain: None Moon illuminance: 0%	**End**: Temp: 18°C Relative Humidity: 67% Cloud Cover: 80% Wind: 4mph Rain: None Moon illuminance: 30%
Surveyor (position) **As shown in Appendix 3**	**LEAD Name** – Merry Anderson Consultant Ecologist Bat Level 3/4 Survey Class Licence CL19 &CL20- Position 3 – observing the north elevation and roof structure of B2	

<table>
<tr><td colspan="2"></td><td>Surveyor Name – Morwenna Cooper -2 years' bat survey experience - Position 2 – observing the south and west elevation and roof structure of B1 and the west elevation on B2.
Surveyor Name -Pete Ockenden -1st year bat survey experience -position 2 - observing the north and west elevation and roof structure of B1
Surveyor Name -Rebecca Herring – 1st year bat survey experience - Position 1 – observing the south and east elevation and roof structure of B1 (maternity peak count)</td></tr>
<tr><td colspan="2">IR position
As shown in Appendix 3</td><td>Position 1 - observing the north elevation and roof structure of B1
Position 2 – observing the south elevation and roof structure of B1</td></tr>
<tr><td>Building reference</td><td>Surveyor position</td><td>Notes/observations: 49 common pipistrelle bats emerged from the front of The Stables with two re-entries during a short shower. 61 common pipistrelle bats emerged from the back of the stables. Total count of 108 common pipistrelle bats from the maternity roost.
20 whiskered bats flew out of the Mill House indicating a second maternity roost is present in this building.</td></tr>
<tr><td>B1-The Stables</td><td>1</td><td>The first emerging bat from the maternity roost was at 21.25 and was a common pipistrelle. Bats continued to emerge from 3 areas of the gable end. At 21.35 a light rain shower occurred which lasted 10 minutes. During this time two bats were seen to re-enter the front gable. Emergence commenced again at 22.07 and ended with the last bat existing at 22.20. A total of 47 bats emerged from the building at position 1.
  </td></tr>
<tr><td>B1- The Stables

B2 The Mill House</td><td>2

2</td><td>The first bat to emerge was a common pipistrelle from the rear of the Stables was at 21.25. The bat emerged from beneath the end cap slate. 61 common pipistrelle bats later emerged with one bat exiting from the ridge, one from the skylight on the south roof elevation and one adjacent to the end cap tiles.</td></tr>
</table>

		 **At 21.44 until 21.49 6 whiskered bats were observed emerging from the west gable of the Mill House.** Noctule passes were detected until the end of the survey at 22.32 
B2 -The Mill House	3	The first bat detected was at 21.24 which was a common pipistrelle exiting from the adjacent building. **Emergence from the Mill house commenced at 21.46. A total of 8 whiskered bats were observed during the survey, however review of the thermal footage recorded 20 whiskered bats emerged during the survey. The last bat to emerge was at 2210.**

		 For the rest of the survey, Common pipistrelles were detected foraging the area. At 22.00 myotis bats were detected and at 22.05 brown long-eared bats were recorded. From 22.12 until the end of the survey noctule passes were detected.
Building reference	**IR position**	**Notes/observations: A review of the thermal footage recorded a total of 20 whiskered bats emerging from three access points at the gable apex of B2.**
B2 -The Mill House	3	
Other observations		

Table 9: Survey results (third visit)

Date		23/06/2023	
Building inspection prior to survey		Another internal inspection of the loft in the Mill House B2 was undertaken to get a fresh sample of droppings for DNA analysis. No bats were observed roosting within the loft during this survey.	
Start and end times		21.15 – 23.43 Sunset: 21.30	
Weather conditions		**Start:** Temp: 19°C Relative Humidity: 80% Cloud Cover: 100% Wind: 2/8 Rain: None Moon illuminance: 0%	**End**: Temp: 21°C Relative Humidity: 74% Cloud Cover: 100% Wind: 1/8 Rain: None Moon illuminance: 0%
Surveyor (position) **As shown in Appendix 3**		**Surveyor Name** – Morwenna Cooper -2 years' bat survey experience - Position 1 – observing the south and east elevation and roof structure of B1 **Surveyor Name** -James Gilpin - Position 2 – observing the north and west elevation and roof structure of B1 **LEAD Name** – Merry Anderson Consultant Ecologist Bat Level 3/4 Survey Class Licence CL19 &CL20 - Position 3 – observing the north elevation and roof structure of B2	
IR position **As shown in Appendix 3**		Position 3 – observing the north elevation and roof structure of B2	
Building reference	**Surveyor position**	**Notes/observations: Activity was notably reduced emergence from B1 due to peak maternity. No bats were observed to emerge from building B2. This indicates the roost has been abandoned, likely due to defensive behaviour of the pipistrelles around their large maternity roost.**	
B1 -The Stables	1	**The first common pipistrelles emerging from the front of the stables B1 was at 21.16. A further 32 bats flew out from under the slate tiles. A further 5 bats emerged from under the fascia on the south wall. Emergence ended at 22.02.**	

		 At 22.15 a serotine bat pass was heard but not seen. No other bats were detected or observed from this position.
B1 -The Stables	2	**The first bats emerging from the back of the stables B1 was at 21.23. A total of 53 common pipistrelle bats emerged from under the end cap. Emergence ended at 21.57.** Common pipistrelles were later observed foraging and passing around the building. At 22.23 a serotine bat was heard but not seen. No other bats were detected or observed from this position.

		
B2 The Mill House	3	**No bats were observed to emerge from building B2.** 
Building reference	**IR position**	**Notes/observations:**
B2	1	A review of the thermal footage found no bats emerged from the building B2.

		
Other observations		

5.0 Conclusions, Impacts and Recommendations

5.1 Informative Guidelines

A summary of the relevant legislation and planning policies is provided in Appendix 5.

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.

5.2 Evaluation

Taking the desk study and field survey results into account, Table 10 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 development of an extension to link between two detached buildings.

Table 10: Evaluation of the site and any ecological constraints

Feature	Survey Results Summary	Impact Assessment	Recommendations	Biodiversity Enhancement Opportunities[1]
Designated sites	There are 2 statutory sites within 2km of the site, being the Camel Valley and Tributaries Site of Special Scientific Interest. and The River Camel Special Area of Conservation. An area of woodland is present within the site that is part of the SSSI. As such, the site lies within the impact risk zone for these designations.	No direct impacts to designated sites are anticipated due to the small scale of the proposed development. However, indirect impact such as pollution may arise from the proposed works.	Best practice measures to minimise the possibility of pollution must be implemented during construction.	None.

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

	There are 2 non-statutory sites within 2km of the site, the closest being Tower Wood to St Teath County Wildlife Site located 200m from the site.			
Habitats and flora	The development site contains no notable habitats, comprising an area developed land and sealed surface, however broadleaf woodland and a watercourse are present in the area surrounding work site which are listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Other habitats within the site comprise ornamental gardens and grassland and vegetated boarders which are of good quality and could be of value to local wildlife populations (as detailed in subsequent sections of this table). No protected or notable plant species were recorded during the survey. Himalayan Balsam was identified onsite outside of the work area and is a non-native invasive under schedule 9 of the Wildlife and Countryside Act 1981. This is subject to active management of the site.	No direct impacts to any notable habitats are anticipated due to the small scale of the proposed development. However, due to the proximity of the site to the woodland and watercourse, indirect effects such as pollution or tree damage could occur during construction. The proposed development will result in the loss of ~100m^2 of sealed tarmacadam surface. This is likely to have a minimal impact on biodiversity due to the low ecological value of this habitat. All vegetated habitat and trees surrounding the development site will be retained. Details on the impacts to bat habitat is detailed in the species-specific column below. Construction is not anticipated to result in the spread of Himalayan Balsam.	Best practice measures to minimise the possibility of pollution must be implemented during construction. Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012).	The following habitat creation and enhancement opportunities could be incorporated into the proposed development: The site and surrounding gardens have already under-gone enhancement with the removal of invasive vegetation and extensive clearance of the river to restore the leat. Management of the woodland is ongoing with maintenance of the watercourses and controlled eradication of the invasive species within the woodland. Additional enhancements include: The provision of standing dead wood habitat by creating monoliths from dead or diseased trees. Species-specific enhancement opportunities are detailed later in this table.
Amphibians	Amphibians and reptiles such as slow worms and grass snakes are likely to be present within the	No impacts are anticipated on great crested newt, as a result of the proposed	A precautionary working method will be implemented for common amphibians and reptiles during construction, including the following measures:	The following habitat creation and enhancement opportunities could be

	vegetation surrounding the site and watercourse. During the first bat survey, a toad was seen on the paving outside B2, heading to the leat. A desk study shows the site is not within the natural range for great crested newt. Grass snakes have a natural affinity to waterbodies and water courses.	development as this species is considered to be absent from the site. Common amphibians and reptiles commuting across the work site will be impacted by the proposed development and may be entrapped, killed or injured during works.	• Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians and reptiles could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any common amphibians or reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.	incorporated into the proposed development which would be beneficial for amphibians and reptiles: Areas of long tussocky grass will provide shelter and foraging habitat for common amphibians and reptiles. The provision of dead wood piles along the banks of the leat will provide shelter and hibernacula.
Roosting bats B1 The Stables	Roost 1: Species: common pipistrelle bat Peak count: 108 Roost type: large maternity roost. Roost location: the void in the apex of the roof between the roof ridge and vaulted internal ceiling and wall tops at the gable ends of the building. Access points: east gable end under the hanging slates, under the fascia board on the south elevation and under the end cap tile on the rear (west) gable end. This roost is considered to have moderate conservation value, in line with the Bat Mitigation Guidelines (English Nature, 2004). DNA analysis on the droppings recovered from outside the	The erection of the new extension building will result in the loss of the gable to the east of B1. The roost will be maintained with the existing roof structure, on the wall tops and between the tiles and roof lining. The existing access to the rear of the building (west) and south elevations will also be retained. Construction will result in the modification of the roost access on the east. The removal of the gable hanging slates may also impact roosting bats. Pipistrelles are known to over-winter in their summer roost locations (albeit in smaller numbers) and will often use buildings to hibernate during winter. As such, they may be present under the hanging slates and along the wall top on the gable end. Works to these features could cause disturbance, death or injury to bats.	An EPSL application to Natural England will be required to legally permit the proposed works. The EPSL application requires that surveys be undertaken within the most recent active bat season (optimal May to August, suboptimal September). Planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission, where possible to do so. A Material Changes Check will be required within three months of the EPSL submission if no survey work has been undertaken within that period. The EPSL will detail any mitigation and compensation measures that will be required for the proposed development to comply with the standing advice and will be designed to reduce any impacts to an acceptably low level to maintain (or enhance) the Favourable Conservation Status (FCS) of the local bat population. The EPSL will include the following measures:	The new building will be adapted to provide identical bat roost habitat to the existing roof void of B1 and will include hanging tiles and bat access tiles into the roof void. This will increase the amount of useable roost space for bats.

	building has confirmed the species type to be common pipistrelle. No other bat species was seen of detected to emerge from the building during the three emergence surveys.		• Timing of works to avoid the maternity season (May to September). • The installation of 2 large bat boxes at the site (one bat box per bat species) prior to works commencing to form a receptor site for any bats found during the works. These boxes may be installed on buildings or trees or can be pole mounted but must be in an undisturbed location and will need to be maintained in this location post-development. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. Suitable locations are as shown in Appendix 4. • The provision of a toolbox talk to contractors, by the Named Ecologist or an Accredited Agent, to inform them of the presence of bat roosts. • A pre-commencement inspection of any roost features by the Named Ecologist or an Accredited Agent using a torch and an endoscope (this may be via ladders, scaffolding or a mobile elevated platform). • The removal of bat roost features by hand under the supervision of the Named Ecologist or an Accredited Agent (where it is not possible conclude absence of bats during the pre-commencement inspection). • Avoiding the use of unnecessary lighting, particularly at night, or implementing a low impact lighting strategy to avoid illumination of retained or newly created roosts or roost features. • Avoiding excessive noise or vibration disturbance e.g., from power tools or radios, within close proximity of retained or newly created roosts or roost features.	

			The provision on new roost access using bat access tiles will be provided. These will be places in close proximity to the access points being removed. Post development monitoring of the site will be required to fulfil the conditions set out in the licence. This will include a post completion daytime check (to ensure all measures are in place before the colonies return) and dusk emergence surveys in years 2 and 4 post completion. For the roof of the new building, a bat friendly roof membrane must be used. You must include a certificate that proves the roofing membrane has passed a 'snagging propensity test' if you're using a non-bitumen coated roofing membrane. A snagging propensity test checks that the membrane can stand the repeated snagging actions of roosting bats. To pass, a membrane must show no change in the average number of loops per cm2 as rotations are increased from 0 to 1000. You do not need a certificate for bitumen 1F felt that has a non-woven, short fibre construction. Should timber treatment be required this should follow guidance set out at the below link: https://www.gov.uk/government/publications/bat-roosts-insecticides-and-timber-treatments/timber-treatment-products-suitable-for-use-in-or-near-bat-roosts The EPSL will only include the bat species, numbers and roost types listed above. If bats are found during periods of adverse weather conditions, these must be left undisturbed until weather conditions become more favourable to move bats to the receptor bat box. EPSLs do not allow for the disturbance of hibernating bats. Therefore, if any bats are found during the hibernation period November to March or if any unexpected bat species or roost types are identified	

			works must cease and advice must be sought from the Named Ecologist regarding the possible requirement for timing restrictions for works, the completion of further bat surveys or a modification to the EPSL.	
Roosting bats B2 The Mill House	Roost 2: Species: Whiskered myotis bat as confirmed on DNA analysis of the droppings. Peak count: 20 Roost type: small maternity roost. Roost location: the void in the apex of the roof between the roof ridge and soffit box on the northwest gable end. Access points: 3 exit points at the apex of the roof under the ridge tile and tiles adjacent either side of the ridge. This roost is considered to have moderate conservation value, in line with the Bat Mitigation Guidelines (English Nature, 2004). DNA analysis on the droppings recovered from within the loft of the building has confirmed the species type to be whiskered myotis. No other bat species was seen or detected to emerge from the building during the three emergence surveys. On the third survey no bats were seen to emerge from B2, and an internal loft inspection did not find any roosting bats. It is	Plans for how the new extension building will link into the existing roof structure are still being finalised. The loft will be retained in the proposed development however the soffit box will be removed and roof elevations will be modified. This may result in the loss of roost habitat (if bats are roosting within the wooden soffit) and will alter the internal conditions of the existing loft roost. Whiskered bats are crevice and void dwelling bats. Although research has found this species typically hibernated underground, their over-wintering presence within the summer roost cannot be fully discounted. As such, works may result in the disturbance, death or injury of bat if present.	This roost will be included in the EPSL application as detailed above. New access points into the existing loft will be provided with bat access tiles and bat adapted ridge tiles. These will be located as close to the original access as possible.	The provision of additional bat roost habitat will be incorporated into the new building extension. This must include both crevice style habitat and void habitat. The addition of a new bat specific loft space can include internal bat boxes to provide crevice habitat within a larger loft space to create micro climates. External features such as raised and hanging tiles will provide alternative crevice habitat.

	hypothesized that the presence of a large pipistrelle maternity roost in close proximity to this building may have led to roost abandonment, due to the defensive behaviour of the pipistrelles around their maternal roost.			
Foraging and commuting bats	Tree lines, woodland and watercourses could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. Given the location of the proposed extension between two existing buildings, it is not anticipated the development will significantly increase light spill into habitats used by foraging and commuting bats.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for foraging bats: • Planting of night scented flowers and shrub will attract nocturnal pollinators and help to increase foraging opportunities for bats.
Badger and hedgehog	The work area is surrounded by habitats which are optimal to support populations of hedgehogs. Badger setts may be present in the wider woodland to the north. As such and given the suitable foraging habitat surrounding the development area, badgers and hedgehogs may be present in close proximity to excavations. No badger sett was identified within 30m of the development area.	~100m^2 of tarmacadam sealed surface will be removed during construction. The loss of such habitats is likely to be inconsequential to local badger and hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, excavation activities could result in the death or injury of animals if present within the work area.	A precautionary working method will be implemented during construction, including the following measures: • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Exposed pipes should be checked at the end of each day and capped off to prevent hedgehogs taking shelter. • 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 or hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: Log and brash piles will provide shelter and hibernacula. Long tussocky grass will increase foraging opportunity.

Hazel dormouse	A desk study returned no EPSL records returned within 2km of the site. The presence of the A39 severs connectivity to woodland to the south however, dormice may be present to the north of the site. As such, their presence in the wider site cannot discounted. There are no suitable habitats within the development area to support dormice.	No impacts are anticipated on hazel dormice as a result of the proposed development.	None.	None.
Otter and water vole.	Both otter and water vole are known to be present in the river Allen, the main tributary of the river Camel. The leat and water courses within the site sub-optimal to support otters however, water vole may be present further up the river. There will be no impact to any watercourse or associated riparian habitat as a result of the development.	No impacts are anticipated on riparian mammals as a result of the proposed development.	None.	None.
Birds	No vegetation will be removed from site, however, works to B2 will result in the modification of the northwest gable roof. This was observed to have nesting blue tits at the time of the survey. One conifer tree was assessed as poor and will require reduction.	One conifer tree will be reduced 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 of a breeding site for bluetits in building B2.	Roof works to building B2 should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the building 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 2 bird boxes at the site will provide additional nesting habitat for birds. The bird boxes will be installed on the existing dwelling or new extension. I.e., Vivara Pro Seville WoodStone Nest Box with 32mm Oval Hole Woodstone Nest Box General purpose bird boxes should be positioned 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Species-specific bird boxes should be installed in line with manufacturers specifications.

Invertebrates	The development area comprises tarmacadam sealed surface which has negligible value for invertebrate species.	No impacts are anticipated on notable species or populations of invertebrates 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 invertebrates: • The installation of bee bricks and insect hotel will increase habitat for solitary wasp and bees. • Areas of tall and tussocky grassland to provide breeding habitat for moths and butterflies. • Dead wood piles and standing dead wood.

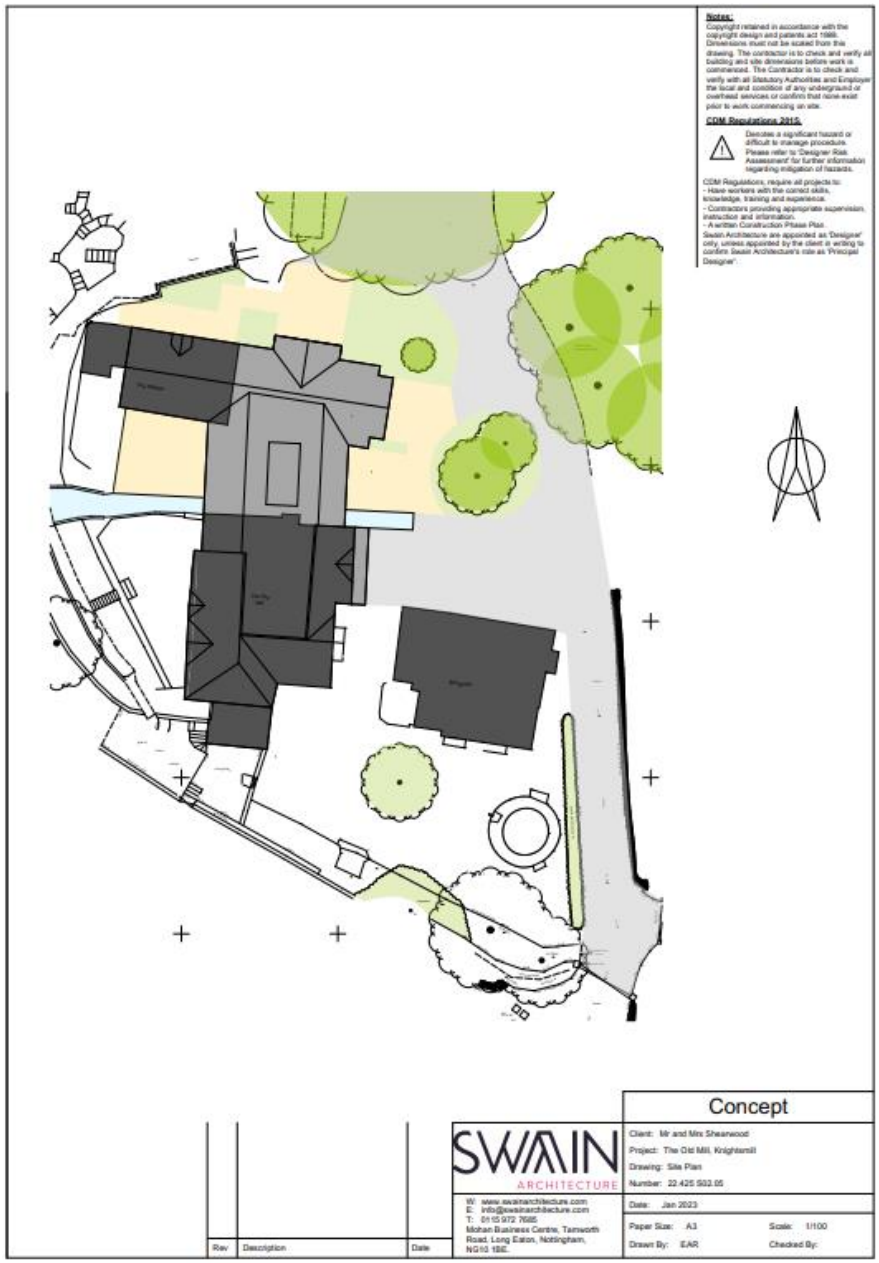
5.0 Bibliography

- Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Dejean, T., Griffiths, R., Foster, J., Wilkinson, J., Arnell, A., Brotherton, P., Williams, P. and Dunn, F. (2014). Using eDNA to Develop a National Citizen Science-based Monitoring Programme for the Great Crested Newt (*Triturus cristatus*). Biological Conservation. 183. 10.1016/j.biocon.2014.11.029.
- Bright, P., Morris, P., Mitchell-Jones, T. and Wroot, S. (2006). The Dormouse Conservation Handbook Second Edition.
- 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.
- Chanin, P. (2003). Ecology of the European Otter. Conserving Natura 2000 Rivers Ecology Series No. 10. Natural England, Peterborough.
- 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 (2017). Guidelines on Ecological Report Writing. 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 (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Defra (2007). Hedgerow Survey Handbook. A Standard Procedure for Local Surveys in the UK. Defra, London.
- Edgar, P., Foster, J. and Baker, J (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth http://downloads.gigl.org.uk/website/Reptile%20Habitat%20Management%20Handbook.pdf
- Garland, L. & Markham, S. (2008) Is Important Bat Foraging and Commuting Habitat Legally Protected? http://biodiversitybydesign.co.uk/cmsAdmin/uploads/protection-for-bat-habitat-sep-2007.pdf
- Gent, T. and Gibson, S. (2003). Herpetofauna Workers' Manual. JNCC, Peterborough.
- Gilbert, G., Gibbons, D.W., and Evans, J. (1998) Bird Monitoring Methods: A Manual of Techniques for UK Key Species. The Royal Society for the protection of Birds, Sandy, Bedfordshire, England.
- Google Earth. Accessed on 25/05/2023.
- Harris, S., Cresswell, P. and Jefferies, D.J. (1989). Surveying badgers. Mammal Society, London.

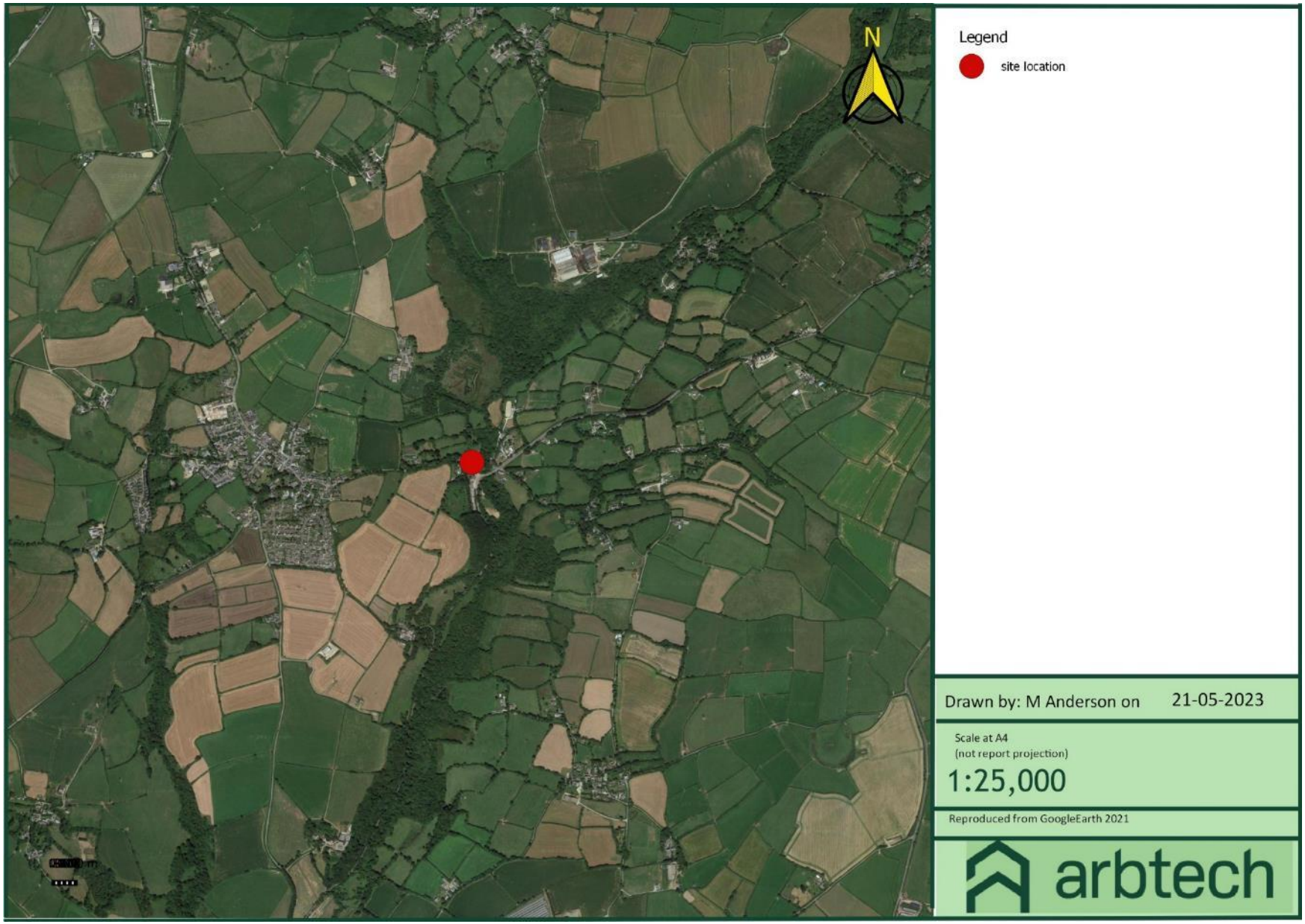
- HMSO: Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 https://www.legislation.gov.uk/uksi/2019/579/contents/made
- HMSO: Countryside & Rights of Way Act (2000) http://jncc.defra.gov.uk/page-1378
- HMSO: Natural Environmental and Rural Communities Act (2006) http://www.legislation.gov.uk/ukpga/2006/16/contents
- HMSO: The Protection of Badgers Act 1992 (as amended) http://www.legislation.gov.uk/ukpga/1992/51/contents
- HMSO: Wildlife and Countryside Act 1981 (as amended 01.04.1996) http://jncc.defra.gov.uk/page-1377
- Institution of Lighting Professionals (2018). Guidance Note 08/18 Bats and Artificial Lighting in the UK. Bats and the Built Environment Series Publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting.
- JNCC (2004). Bat Workers Manual, 3rd Edition. http://jncc.defra.gov.uk/page-2861
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit. http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- Langton, T., Beckett, C. and Foster, J (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk. http://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf
- Magic Database. http://www.magic.gov.uk/MagicMap.aspx Accessed on 25/05/2023.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework (2021). https://www.gov.uk/government/publications/national-planning-policy-framework--2
- Natural England Designated Sites View. https://designatedsites.naturalengland.org.uk/SiteSearch.aspx Accessed on 25/05/2023.
- Natural England (2005). Organising Surveys to Determine Site Quality for Invertebrates: A Framework Guide for Ecologists. Natural England, Peterborough.
- Natural England (2007). Badgers and Development a Guide to Best Practice and Licensing. Natural England. Bristol. http://www.wildlifeco.co.uk/wp-content/uploads/2014/03/badgers-and-development.pdf
- Oldham R.S., Keeble J., Swan M.J.S. and Jeffcote M. (2000). Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155. https://www.thebhs.org/publications/the-herpetological-journal/volume-10-number-4-october-2000/1617-03-evaluating-the-suitability-of-habitat-for-the-great-crested-newt-triturus-cristatus/file
- Panks, S., White., N., Newsome, A., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Scott, S.J., Heaver, M., Scott, S.H., Treweek, J., Butcher, B. and Stone, D. (2021). Biodiversity Metric 3.0: Auditing and Accounting for Biodiversity – Technical Supplement. Natural England.
- Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747.
- Strachan, R., Moorhouse, T. and Gelling, M. (2011). Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit, Oxford.

- UK Habitat Classification Working Group (2018). UK Habitat Classification User Manual at http://ecountability.co.uk/ukhabworkinggroup-ukhab
- Wray, S., Wells, D., Long, E. and Mitchell-Jones, T (2010). Valuing Bats in Ecological Impact Assessment. IEEM In-Practice. Number 70 (December 2010). Pp. 23-25.

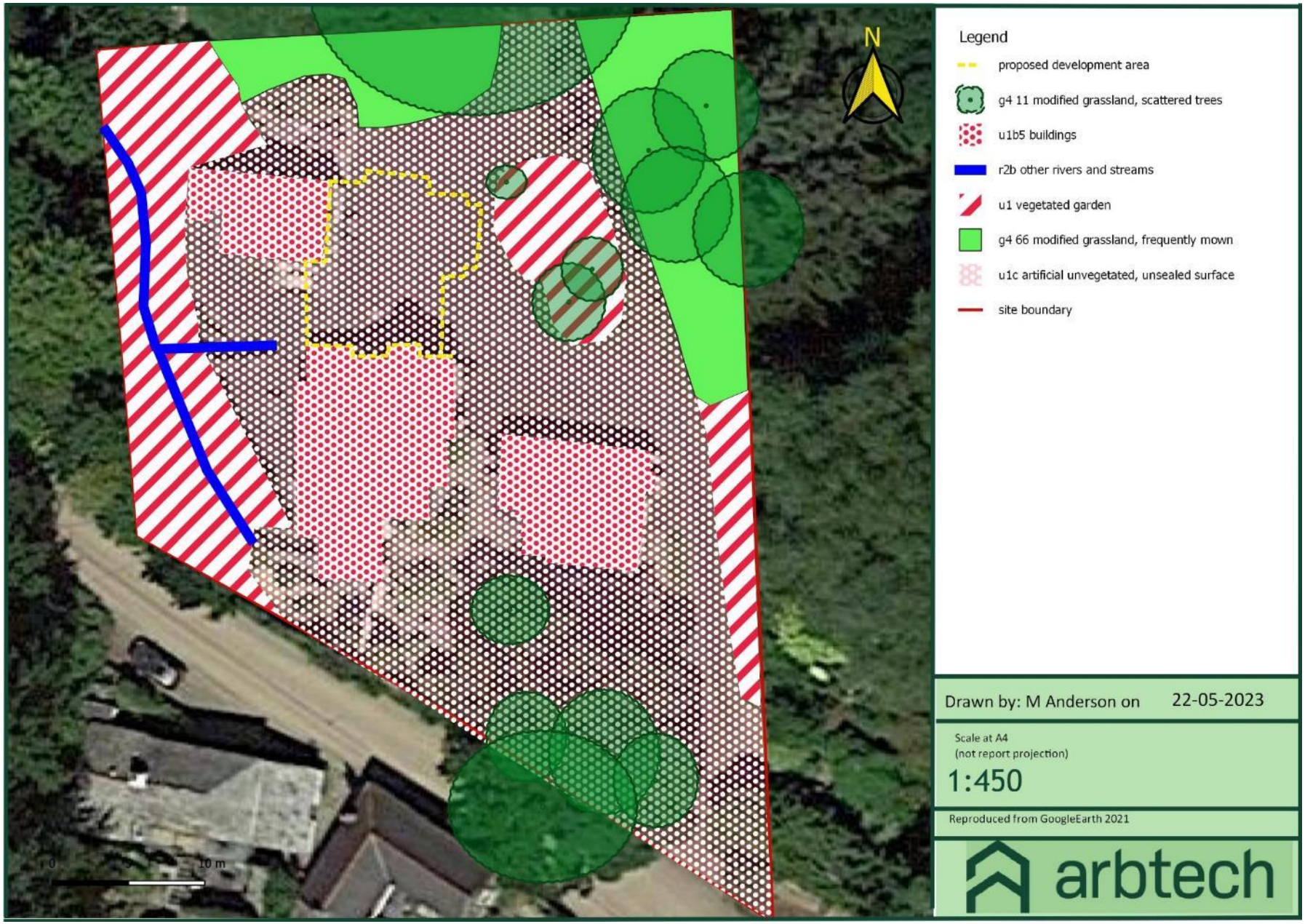
Appendix 1: Proposed Development Plan



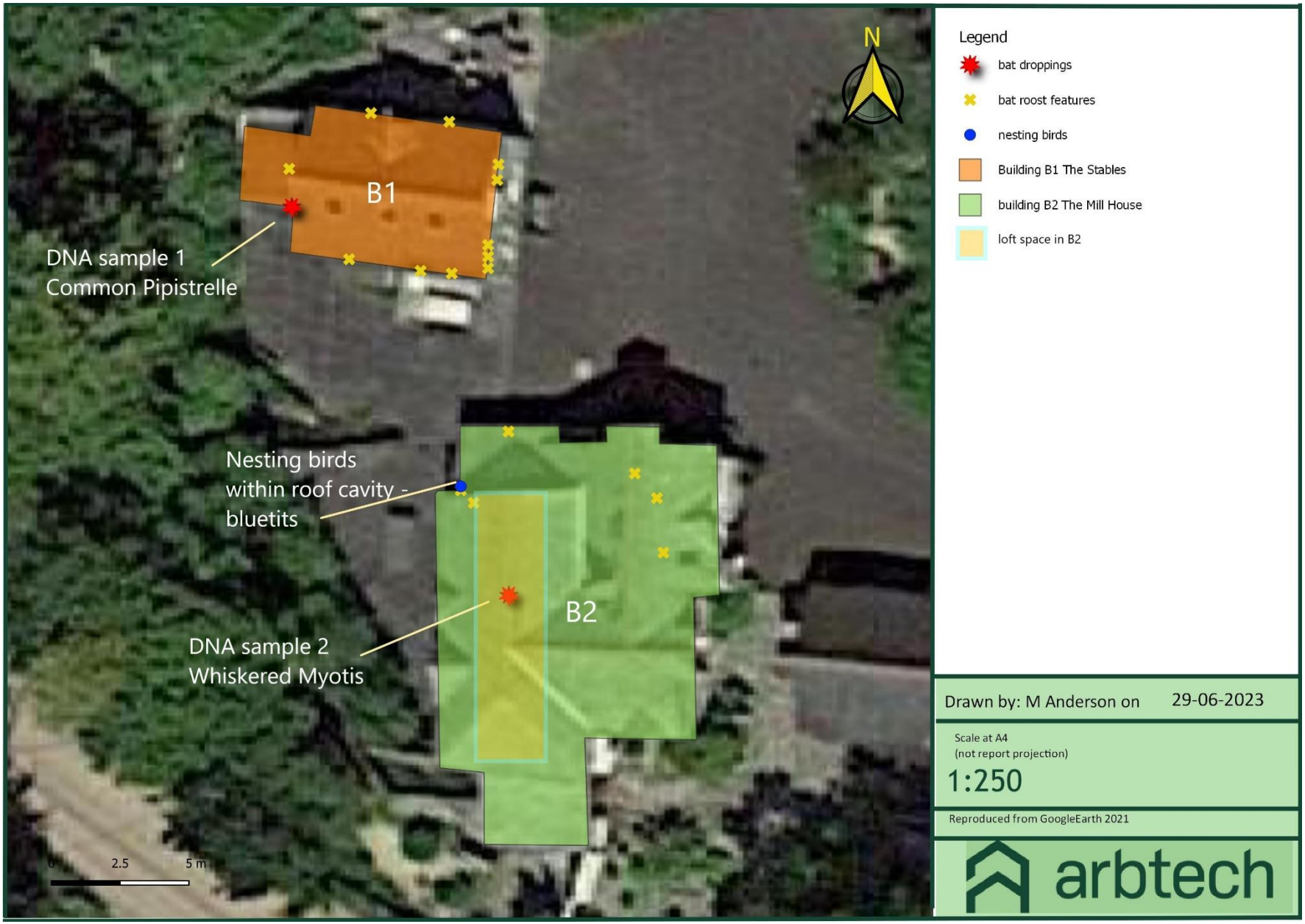
Appendix 2: Site Location Plan



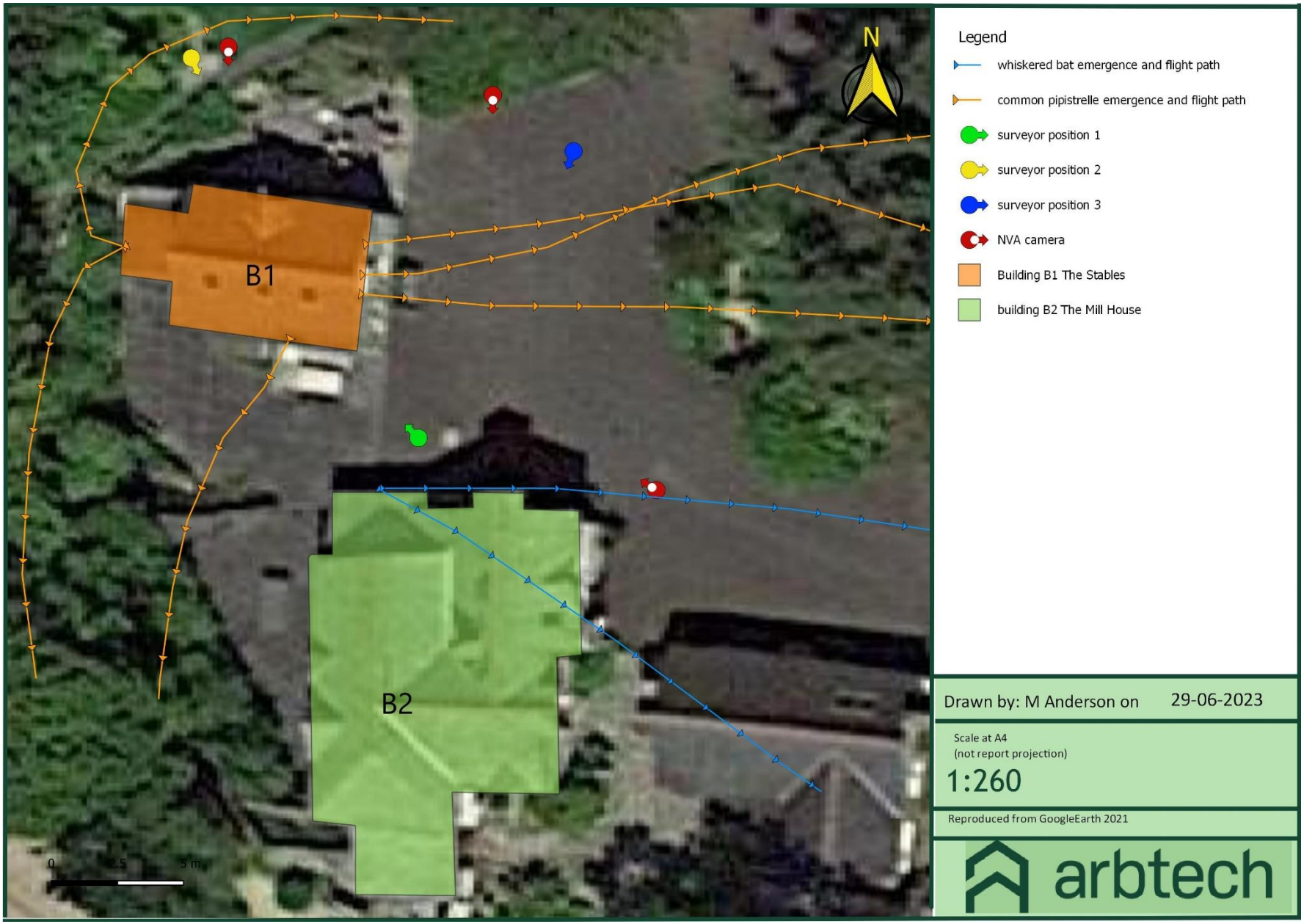
Appendix 3a: Habitat Survey Plan



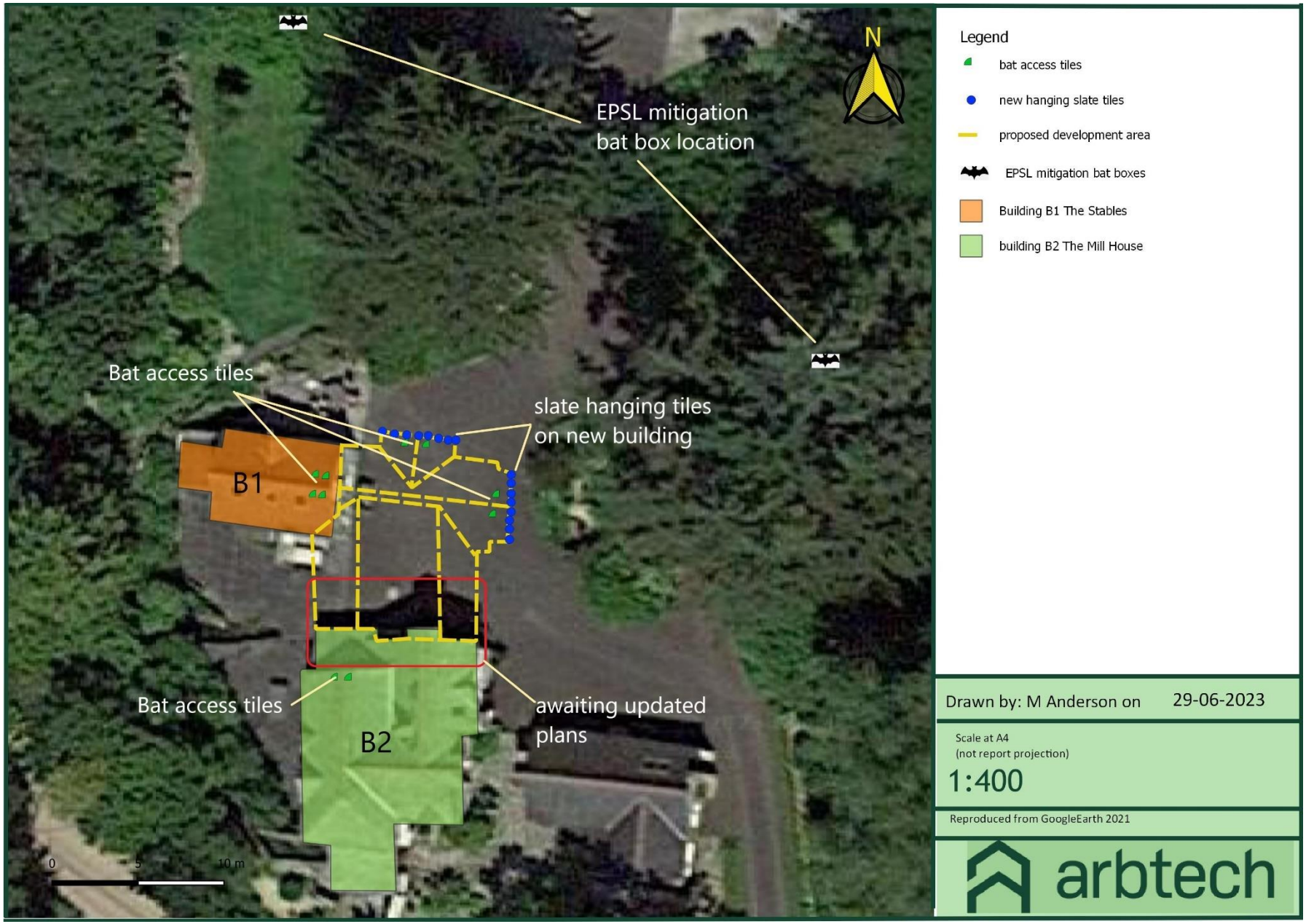
Appendix 3b: PRA Plan



Appendix 3c: BERS Activity Plan



Appendix 3d: Mitigation and Enhancements Plan



Appendix 4: DNA Analysis Results

Ecotype Genetics

Results

Sample ID: EG-1054-1

Sample information:

Sample type: Faecal **Species group:** Bats

Suspected species: pipistrelle **Site Location:** PL30 3JE

Comments: two roosts, two buildings. one is defo common pip maternity roost, if same species then confirmed second satellite roost.

Laboratory information:

DNA Extraction Code: EG-2023-0620 **Identification method:** qPCR

Analysis Procedure Notes:

Laboratory Comments:

None

Species Identified:

Species 1: Pipistrellus pipistrellus (Common pipistrelle bat) **qPCR Ct Value:** 22

Species 2: Myotis mystacinus (Whiskered bat) **qPCR Ct Value:** 20

Ecotype Genetics Limited, Sussex Innovation Centre, Science Park Square, Falmer, Brighton, BN1 9SB

e: orders@ecotypegenetics.co.uk t: 01273704505 w: ecotypegenetics.co.uk

Appendix 5: 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A development licence will be required from the relevant countryside agency (i.e. Natural England) 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 kill, injure or take any wild bird
- Intentionally take, damage or destroy 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.

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

EFFECT OF LEGISLATION AND POLICY 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 significantly affect 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.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England) 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 significantly affect 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) 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 significantly affect 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) 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 EPSL. 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 significantly affect 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

EFFECT OF LEGISLATION AND POLICY 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). 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

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

The relevant countryside agency (i.e. Natural England) 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 picking, uprooting or destruction of any wild Schedule 8 species
- 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.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) will be required from the relevant countryside agency (i.e. Natural England) for works which are likely to affect species of planted listed on Schedule 5 of the Conservation or 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 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*

EFFECT OF LEGISLATION AND POLICY 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*

EFFECT OF LEGISLATION AND POLICY 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

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.

LOCAL PLANNING POLICY

Cornwall Local Plan 2010-2030

Cornwall Local Plan 2010-2030 can be viewed here: https://www.cornwall.gov.uk/media/ozhj5k0z/adopted-local-plan-strategic-policies-2016.pdf

Development and mitigation

Policy 2.166 Development should avoid any adverse impact on biodiversity and geodiversity. Where significant adverse impacts would result, the first priority should be relocation of the development to an alternative site. If impacts cannot be avoided then suitable mitigation is required. If that is not possible, then full compensation must be provided. 2.167 Planning applications which have the potential to impact on biodiversity and geodiversity (including but not restricted to, Local Nature Reserves (LNR), Regionally Important Geological/ Geomorphological Sites (RIGs), and habitats of species of principal importance for biodiversity) will need to be accompanied by ecological statements, which describe the ecological value of the site and the nature and extent of any impact of the proposed development. They should outline any mitigation measures and the steps to be taken to enhance biodiversity features, avoid adverse impact on ecological features and where appropriate manage the biodiversity interest, as part of the proposals. Further information on the standard of surveying and reporting required is set out in the biodiversity SPD being prepared by the Council to assist applicants.

The Cornwall Planning for Biodiversity and Net Gain Supplementary Planning Document 16/10/2018

The Cornwall Planning for Biodiversity and Net Gain Supplementary Planning Document can be viewed here: https://www.cornwall.gov.uk/media/v1roqk0x/planning-for-biodiversity-and-net-gain-spd-v11.pdf

The following species could be present on the site or in the surrounding area (based on the site survey and a review of the magic.gov.uk database) and are included in the plan:

- Species: Barbastelle bat, Greater horseshoe bat, Lesser horseshoe bat, Soprano pipistrelle bat, Brown long-eared bat, Noctule bat, harvest mouse

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.