



Preliminary Ecological Appraisal and Preliminary Roost Assessment

The Stables, Bryn Rhedyn Farm, Bronwylfa Road, Wrexham, LL14 4HY

Mr Phillip Fox

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Industry Guidelines and Standards

This report has been written with due consideration to:

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

Proportionality

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

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

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

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Mr Phillip Fox to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at The Stables, Bryn Rhedyn Farm, Bronwylfa Road, Wrexham, LL14 4HY (hereafter referred to as “the site”). The survey was required to inform a planning application for the construction of three new residential dwellings (hereafter referred to as “the proposed development”).

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 9 of this report.

Feature	Foreseen impacts	Recommendations <i>Measures required to adhere to guidance, legislation and planning policies.</i>
Amphibians	Site clearance is likely to occur as part of the proposed development. The loss of such habitats is likely to be inconsequential to local amphibian populations owing to the presence of more extensive habitat locally. However, site clearance could result in the death or injury of amphibians, if present.	A precautionary working method will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the amphibian hibernation season (November to February) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of amphibians, including great crested newt, at the site. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Best practice pollution prevention measures will be implemented to minimise impacts to retained habitats that amphibians 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 are found in the working area these should be moved by hand to a vegetated area along the site boundaries or in retained habitats away from disturbance. In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist.

Reptiles	Rank grassland and scrub will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.	Given the size and possible impacts of the proposed development, further surveys are considered disproportionate. A precautionary working method will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the reptile hibernation season (November to February) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of reptiles at the site. • Fencing will be erected around the working area to prevent encroachment into areas where reptiles could be present. • A pre-commencement inspection of the site will be undertaken for reptiles. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any reptiles to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter reptiles from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent reptiles from utilising these areas. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that a reptile is identified, works must cease and advice must be sought from a suitably qualified ecologist.
Bats B1	The proposed development will result in the demolition of this building. This could result in damage/modification/destruction of any bat roosts present and could cause disturbance, death or injury to bats.	Three bat emergence and re-entry surveys are required during the active bat season (May – September) to characterise the roosts present. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive. One of these surveys must be a dawn re-entry survey. Three surveyors are required to provide full coverage of the building. Surveys are likely to be required before planning permission can be granted.

Bats commuting and foraging	The proposed development will not result in the removal of any habitats which could be used by bats. However, the proposed development will include the use of lighting which could spill on to bat roosting, foraging, or commuting habitat and deter bats from using these areas.	A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only. External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. Wall lights and security lights will be 'dimnable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.
Mammals such as badger and hedgehog	Any badgers crossing the site could be injured or killed during construction.	A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site. • A pre-commencement inspection of the site will be undertaken for any new badger activity. • Fencing will be erected around the working area to prevent encroachment into areas where badger setts could be present. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.

		• The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that a badger sett is identified, works must cease and advise must be sought from a suitably qualified ecologist.
Nesting Bird	The building and brash pile will be removed during construction. The loss of such habitats could result in a reduction in nesting/breeding/foraging habitat. Furthermore, the proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.	Works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the building and vegetation should be undertaken immediately, by qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Mr Phillip Fox to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) at The Stables, Bryn Rhedyn Farm, Bronwylfa Road, Wrexham, LL14 4HY (hereafter referred to as “the site”). The survey was required to inform a planning application for the construction of three new residential dwellings (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

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

A Preliminary Ecological Appraisal was completed by Tyrer Ecological Consultants Ltd (Tyrer, 2019) on 26th September 2019. The results concluded that the building present on site had moderate suitability for roosting bats.

1.2 Site Context

The site is located at National Grid Reference SJ 29259 48260 and has an area of approximately 0.1ha comprising of bare ground, hard standing, existing building and ruderal shrub. It is surrounded by agricultural fields and scattered woodland copses, with a large substation to the north-east of the site.

A site location plan is provided in Appendix 2.

1.3 Scope of the Report

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

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

To achieve this, the following steps have been taken:

- A desk study has been carried out.
- A field survey has been undertaken to record baseline information on the site and surrounding area including habitat types and their suitability for notable or protected species, including roosting bats.

- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.
- Potential impacts on features of value, as a result of the proposed development, have been identified.
- Recommendations for further surveys and mitigation have been made.
- Opportunities for the enhancement of the site for biodiversity have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a 2km radius review of statutory designated sites and notable habitats as well as a 2km radius review of granted European Protected Species Licence (EPSL) and notable species records held on magic.gov.uk database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

2.2 Field Survey

The survey was undertaken by Elen Griffin BSc (Hons), MRSB Consultant - accredited agent to NRW licence number: 79422:OTH:CSAC:2018 on the 18th November 2021.

Preliminary Ecological Appraisal

An extended habitat survey was undertaken, following the methodology set out in *Phase 1 Habitat Survey Methodology* (JNCC, 2010). All land parcels are described and mapped and, where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure and management. The condition of each habitat type was assessed based upon the relevant condition assessments set out in *The Biodiversity Metric 3.0 Technical Supplement* (Panks et al, 2021).

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 one built structure which will be affected by the proposed development as well as providing an overview of the wider site and the surrounding landscape for bat roosting, foraging and commuting habitat.

For any surveyed buildings:

A non-intrusive visual appraisal was undertaken from the ground, using binoculars to inspect the external features of the building 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 building was also made, including the living areas and any accessible roof spaces, using a torch and ladders. The surveyor paid particular attention to the floor and flat surfaces, window shutters and frames, lintels above doors and windows, and carried out a detailed search of numerous features within the roof space.

For any surveyed trees:

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

Suitability Assessment

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

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

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

2.3 Limitations

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

A biological records data search was not commissioned by the client, therefore historical records of protected species have not been factored into this report. The recommendations in this report aim to compensate for the lack of biological records.

In addition the survey was undertaken outside of the optimal season for botanical identification.

3.0 Results and Evaluation

3.1 Desk Study Results

A summary of desk study results is provided below. Full details are provided in Appendix 3.

Designated Sites

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

Table 3: Statutory designated sites within 2km radius of the site

Designated site name	Distance from site (approx.)	Reasons for notification from Natural Resource Wales
Johnstown Newt Sites Special Area of Conservation (SAC)	2000m south-east	Designated site due to the presence of great crested newts <i>Triturus cristatus</i> .
STRYT LAS A'R HAFOD Site of Special Scientific Interest (SSSI)	2000m south-east	Stryt Las a Hafod is a composite site located close to the village of Johnstown, south west of Wrexham, at an altitude of 130m. It is of special interest for its amphibians. Of particular interest is the population of the great crested newt <i>Triturus cristatus</i> . This species has suffered a marked decline throughout Great Britain and Continental Europe as a result of habitat loss. Great Britain is considered to be one of the strongholds for this species in western Europe.

Landscape

A review of aerial photographs (Google Earth) the magic.gov.uk database and OS maps has been undertaken. Collated together, the value of the landscape for bats is described below:

The site is situated in rural area of North Wales, Wrexham. The landscape is dominated by agricultural fields with hedgerow and tree-lined boundaries. There are small, scattered woodland copses and tree lines around the area, which could be used by wildlife for shelter, foraging and commuting. Scattered irrigation ditches around the area will provide abundant insect foraging for birds and bats. There is a large power substation to the north-east of the site. The Pentrebychan Brook lies to the south of the site.

Notable Habitats

No notable habitats were identified within 2km of the site however the Magic database contains limited data for sites in Wales.

Notable Species

No EPSL records have been returned within 2km of the site however the Magic database does not contain details of licences granted by Natural Resources Wales.

3.2 Field Survey Results

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

Table 4: Weather conditions during the survey

Date: 18/11/2021	
Temperature	18°C
Humidity	85%
Cloud Cover	100%
Wind	7mph
Rain	None

Habitats and Flora

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

- J3.6 - Buildings
- J4 - Bare ground/ hard standing
- B6 - Poor semi improved grassland
- J2.1 - Hedgerow
- A2 - Scrub

A description, including condition and area covered, and photograph of each habitat is provided in Table 5.

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

Habitat Type	Habitat description, condition assessment and strategic significance	Photograph
Buildings	An existing stable building is present within the site boundary. Neighbouring residential dwellings are also present directly adjacent to the existing stable building. The building was assessed for its potential to support roosting bats. (Table 6)	
Poor semi improved grassland & native hedgerow	The area to the east of the existing building consists of an area of poor semi-improved grassland. Species identified within the grass included orchard grass <i>Dactylis glomerata</i>, creeping buttercup <i>Ranunculus repens</i> and velvet grass <i>Holcus lanatus</i>. A native hedgerow is present along the northern boundary of the site. Species identified within the hedgerow include hawthorn <i>Crataegus monogyna</i> and hazel <i>Corylus avellana</i>.	

Hard standing & building	An area of hard mixed tarmac and paving is present to the west of the existing stable. Cracks were noted in the hard standing which has allowed some shrub to grown through.	
Scrub	An area of scrub is present along the bottom of the hedgerow along the northern boundary of the site. Pruning and removal of parts of the hedgerow has been undertaken along this boundary.	

Poor semi improved grassland and brash pile	A large brash pile is present within the centre of the site comprising of Ielandii branches, likely present due to the removal of a tree along the northern boundary	
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No protected or non-native invasive plant species were identified on the site.

Fauna

Bats

The results of the PRA are provided in Table 6. Approximately 15 bat droppings were identified scattered throughout the existing stable building.

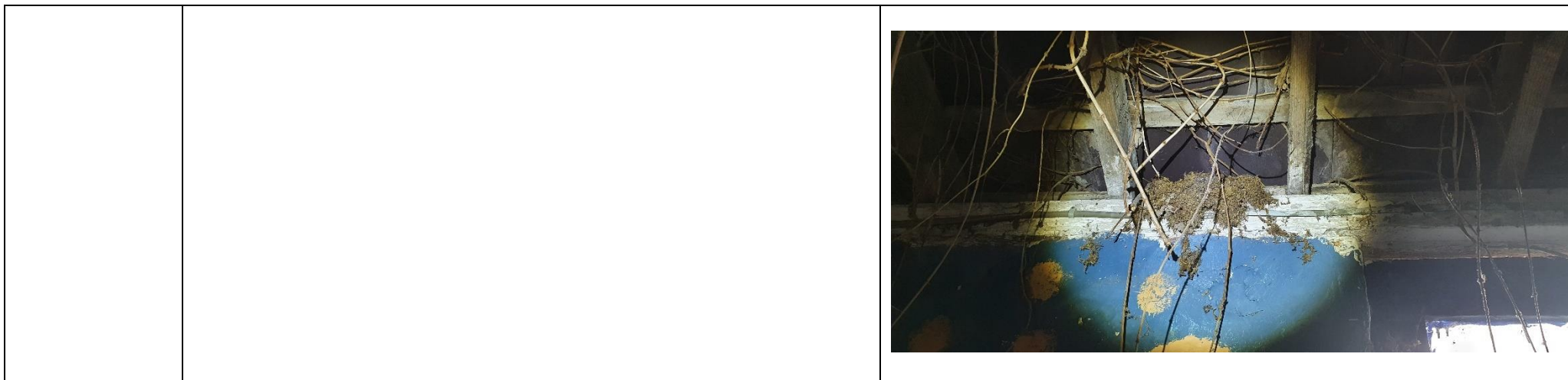
Table 6: Assessment of the suitability of the site for bats

Feature Ref	Description	Photographs
B1 (exterior)	B1 is a detached single storey brick built ex stable block. The roof is clad in slate tiles. A number of raised, missing and slipped tiles were identified across every elevation which could provide potential roosting features for crevice dwelling bats or allow protected species to access B1. A number of gaps were noted between the brick work where the mortar has become damaged and fallen away, some were filled with moss however a number had potential to provide suitable roosting habitat for crevice dwelling species. The soffits are constructed of wood and are damaged which could allow bats and other protected species to gain access into B1.	 

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B1 (interior)	There is no loft space within B1, as the ceiling is vaulted. The roof structure is built from timber beams including the ridge beam. The roof is unlined and as such the underside of the roof tiles are visible from within B1. Light enters the interior spaces as a result of the windows present and via holes in the roof in addition to gaps between the roof structure and the wall tops. Approximately 15 bat droppings were found scattered throughout B1, likely to belong to a pipistrelle species based on shape and size. A number of disused birds', likely wren and sparrow nests were also identified along the wall tops and at the gable ends of the interior.	
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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
Amphibians	Four ponds were identified within 500m of the development site with the closest being approximately 130m to the north-west. The hedgerows present on the site have some connectivity to the nearest pond however it is to the consultants understanding that the hedgerows will be left unaffected by the proposed development. It should be noted that works to the leylandii tree/hedgerow was undertaken prior to the survey. Some suitable amphibian terrestrial habitat was identified within the site boundaries in the form of the scrubby areas beneath the hedgerow to the north and the brash pile in the centre of the site. No suitable aquatic habitat was noted on site.
Reptiles	Some small areas of suitable habitat for reptiles were identified on the site in the form of areas of rank poor semi-improved grassland. Areas of stored materials such as paving slabs present to the north of B1 could also provide suitable hibernaculum for reptiles.
Bats	MAGIC does not hold any NRW EPSL records therefore no records were found. Bat dropping were identified within B1; therefore, the building is a confirmed bat roost. The surrounding trees, hedgerows and farmland are likely to provide suitable foraging and commuting habitat for bats.
Badgers	No evidence of badger or badger setts was identified within 30m of the development site. The hedgerows and fencing surrounding the site are for the most part intact reducing the likelihood of badgers being present on the site.

Hazel Dormouse <i>Muscardinus avellanarius</i>	No suitable habitat for dormouse on the development site. The hedgerows on site did not contain sufficient woody species suitable for dormouse foraging; in addition, it is to the consultants understanding that no hedgerows will be impacted by the proposed development.
Hedgehog <i>Erinaceus europaeus</i>	Areas of grassland and scrub are often used by hedgehogs. Due to the rural location hedgehogs may traverse across the site in search of food or shelter.
Otter <i>Lutra lutra</i>	No riparian habitats are present within or adjacent to the site and therefore it is considered that otter are likely to be absent from the site
Water Vole <i>Arvicola amphibius</i>	No riparian habitats are present within or adjacent to the site and therefore it is considered that water vole are likely to be absent from the site
Birds	Evidence of nesting birds was noted within B1 in the form of old disused nests, likely belonging to swallows and wren. The hedgerows and trees surrounding the site along with the brash pile in the centre are likely to support nesting bird foraging and nesting.

4.0 Conclusions, Impacts and Recommendations

4.1 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.

4.2 Evaluation

Taking the desk study and field survey results into account, Table 8 presents an evaluation of the ecological value of the site and also details any ecological constraints identified in relation to the proposed development which will comprise the construction of three new residential dwellings.

Table 8: Evaluation of the site and any ecological constraints

Ref	Summary of Survey Findings	Foreseen Impacts	Recommendations <i>Measures required to adhere to guidance, legislation and planning policies.</i>	Biodiversity Enhancements <i>The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021)</i>
Designated sites	The site is not subject to any statutory or non-statutory designation due to the lack of BRD.	No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the urban location of the site with surrounding physical barriers.	None.	None.
Habitats and flora	There are no notable habitats within the site but broadleaved woodland habitats are present within 1km of the site. Other habitats within and directly adjacent to the site are common and widespread and have low ecological value.	No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers. The loss of common and widespread habitats from the site are considered to be inconsequential.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development: • Native tree, hedgerow and shrub planting. • Creation of wildflower grassland. • The creation of a wildlife pond/enhancement of existing pond for wildlife. • A green roof on new buildings. Species-specific enhancement opportunities are detailed later in this table.
Amphibians	Four ponds were identified within 500m of the development site with the closest	Site clearance is likely to occur as part of the proposed development. The loss of such habitats is likely to be inconsequential to local amphibian populations owing to the presence of more	A precautionary working method will be implemented during construction, including the following measures:	The following habitat creation and enhancement opportunities could be incorporated into the

	being approximately 130m to the north-west. The hedgerows present on the site have some connectivity to the nearest pond however it is to the consultants understanding that the hedgerows will be left unaffected by the proposed development.	extensive habitat locally. However, site clearance could result in the death or injury of amphibians, if present.	• Site clearance will be undertaken outside of the amphibian hibernation season (November to February) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of amphibians, including great crested newt, at the site. • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Best practice pollution prevention measures will be implemented to minimise impacts to retained habitats that amphibians 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 are found in the working area these should be moved by hand to a vegetated area along the site boundaries or in retained habitats away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist.	proposed development which would be beneficial for amphibians: • The creation of a wildlife pond/enhancement of existing pond for wildlife. • Creation of amphibian refugia and hibernacula using debris and brash from site clearance. • Planting of native scrub and grassland to increase foraging opportunities.
Reptiles	Some small areas of suitable habitat for reptiles were identified on the site in the form of areas of rank poor semi-improved grassland. Areas of stored materials such as paving slabs present to	Rank grassland and scrub will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.	Given the size and possible impacts of the proposed development, further surveys are considered disproportionate. A precautionary working method will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the reptile hibernation season (November to February) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of reptiles at the site.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for reptiles: • The creation of a wildlife pond/enhancement

	the north of B1 could also provide suitable hibernaculum for reptiles.		- Fencing will be erected around the working area to prevent encroachment into areas where reptiles could be present. - A pre-commencement inspection of the site will be undertaken for reptiles. - A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any reptiles to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter reptiles from the working area. - Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent reptiles from utilising these areas. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. - In the unlikely event that a reptile is identified, works must cease and advice must be sought from a suitably qualified ecologist.	of existing pond for wildlife. - Creation of reptile refugia and hibernacula using debris and brash from site clearance. - Planting of native scrub and grassland to increase foraging opportunities. - The creation of basking areas such as rock piles or areas of cleared ground with shelter nearby.
Roosting bats (B1)	B1 has a confirmed roost, as identified by droppings found scattered throughout the building. This is likely to be a feeding roost due to the low number of droppings found and their scattered locations within the building. Lifted tiles and gaps in the brickwork are likely to provide suitable habitat.	The proposed development will result in the demolition of this building. This could result in damage/modification/destruction of any bat roosts present and could cause disturbance, death or injury to bats.	Three bat emergence and re-entry surveys are required during the active bat season (May – September) to characterise the roosts present. At least two of the surveys should be completed during the optimal survey period mid-May to August inclusive. One of these surveys must be a dawn re-entry survey. Three surveyors are required to provide full coverage of the building. Surveys are likely to be required before planning permission can be granted.	To be confirmed upon completion of the surveys.
Foraging and	Hedgerows could be used by local bat populations for	The proposed development will not result in the removal of any habitats which could be used by bats.	A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures:	The following habitat creation and enhancement opportunities could be

commuting bats	foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	However, the proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.	• Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only. External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	incorporated into the proposed development which would be beneficial for foraging bats: • The creation of a wildlife pond/enhancement of existing pond. • Planting of native tree, shrub and hedgerows to increase foraging opportunities.
Badger	No suitable habitat evidence of badger was noted on site however due to the site's rural location badgers may traverse across the site.	Any badgers crossing the site could be injured or killed during construction.	A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site. • A pre-commencement inspection of the site will be undertaken for any new badger activity.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for badgers:

			- Fencing will be erected around the working area to prevent encroachment into areas where badger setts could be present. - Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. - The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which badgers could use. - Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. - In the unlikely event that a badger sett is identified, works must cease and advice must be sought from a suitably qualified ecologist.	Planting fruit bearing trees and species-rich grassland to increase foraging opportunities.
Hazel dormouse	No suitable habitat noted on site.	No impacts are anticipated on hazel dormice as a result of the proposed development, as the hedgerow is to be retained.	None.	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for dormice: - Planting of native trees, shrubs and hedgerows, in particular fruit and nut bearing species, to increase foraging opportunities. - The installation of dormouse boxes at the site. These should be approximately 1.5m from the ground in appropriate habitat.

Hedgehog	Due to the rural nature of the site hedgehogs may traverse across the site.	Any hedgehogs crossing the site could be injured or killed during construction.	A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of hedgehogs at the site. • A pre-commencement inspection of the site will be undertaken for hedgehogs. • Fencing will be erected around the working area to prevent encroachment into areas where hedgehogs could be present. • If any hedgehogs are found in the working area these should be moved by hand to a vegetated area along the site boundaries or in retained habitats away from disturbance. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which 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: • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
Otter	No suitable habitat on or directly adjacent to the site and no possible pathways/connective habitat.	No impacts are anticipated on otters as a result of the proposed development.	None.	None.
Water vole	No suitable habitat on or directly adjacent to the site and no possible pathways/connective habitat.	No impacts are anticipated on water vole as a result of the proposed development.	None.	None.
Birds	Evidence of nesting birds was noted within B1 in the form of old disused nests, likely	The building and brash pile will be removed during construction. The loss of such habitats could result in a reduction in nesting/breeding/foraging habitat. Furthermore, the proposed development could	Works should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the building and vegetation should be undertaken immediately, by qualified ecologist, prior to the	The installation of a minimum of four bird boxes on mature trees around the site boundaries or on retained buildings will provide

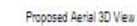
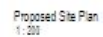
	belonging to swallows and wren. The hedgerows and trees surrounding the site along with the brash pile in the centre are likely to support nesting bird foraging and nesting. A number of common bird species were noted during the site visit.	result in the destruction or the disturbance and subsequent abandonment of active bird nests.	commencement of work. All active nests will need to be retained until the young have fledged.	additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings) Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole. Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
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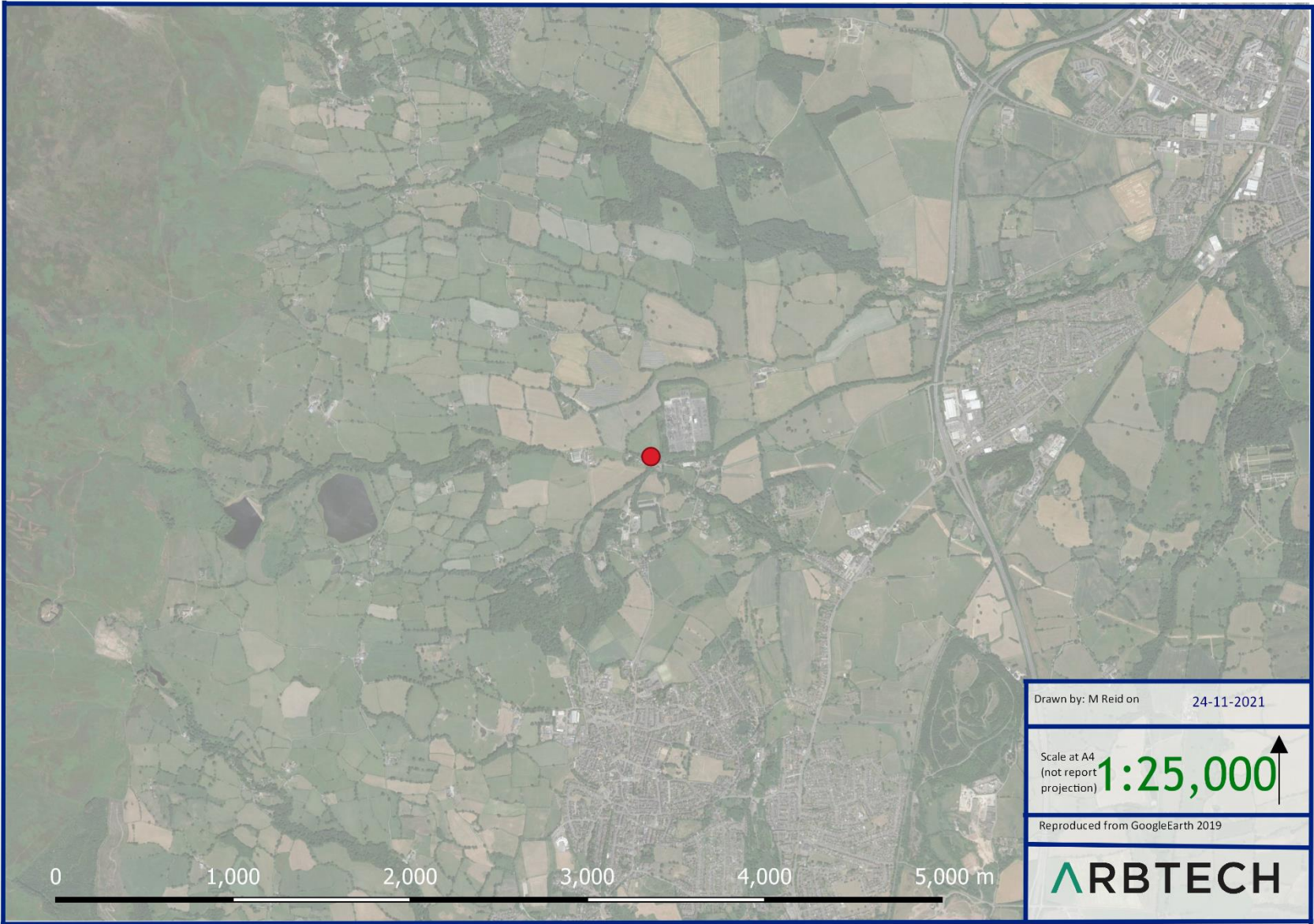
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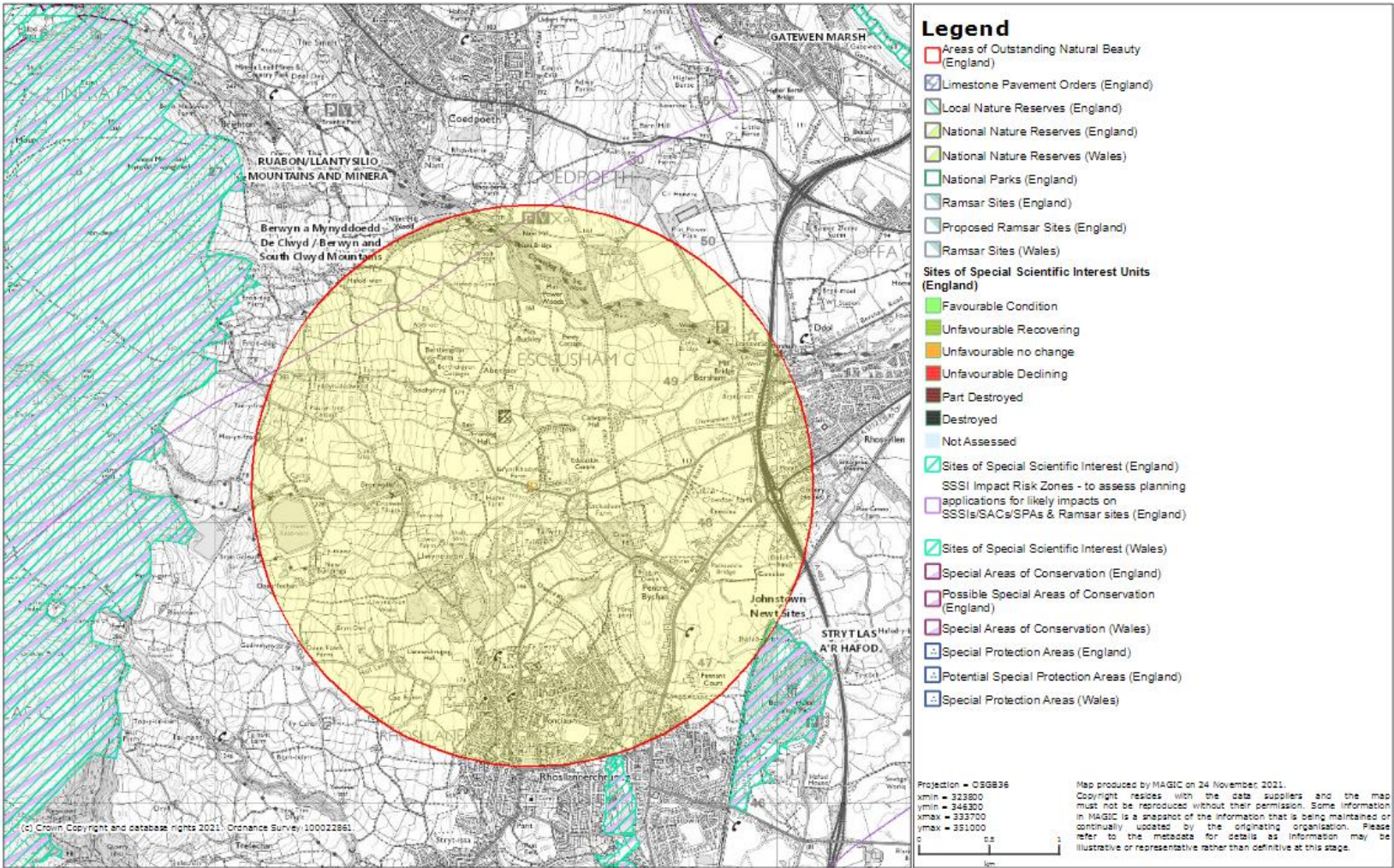
Appendix 2: Site Location Plan



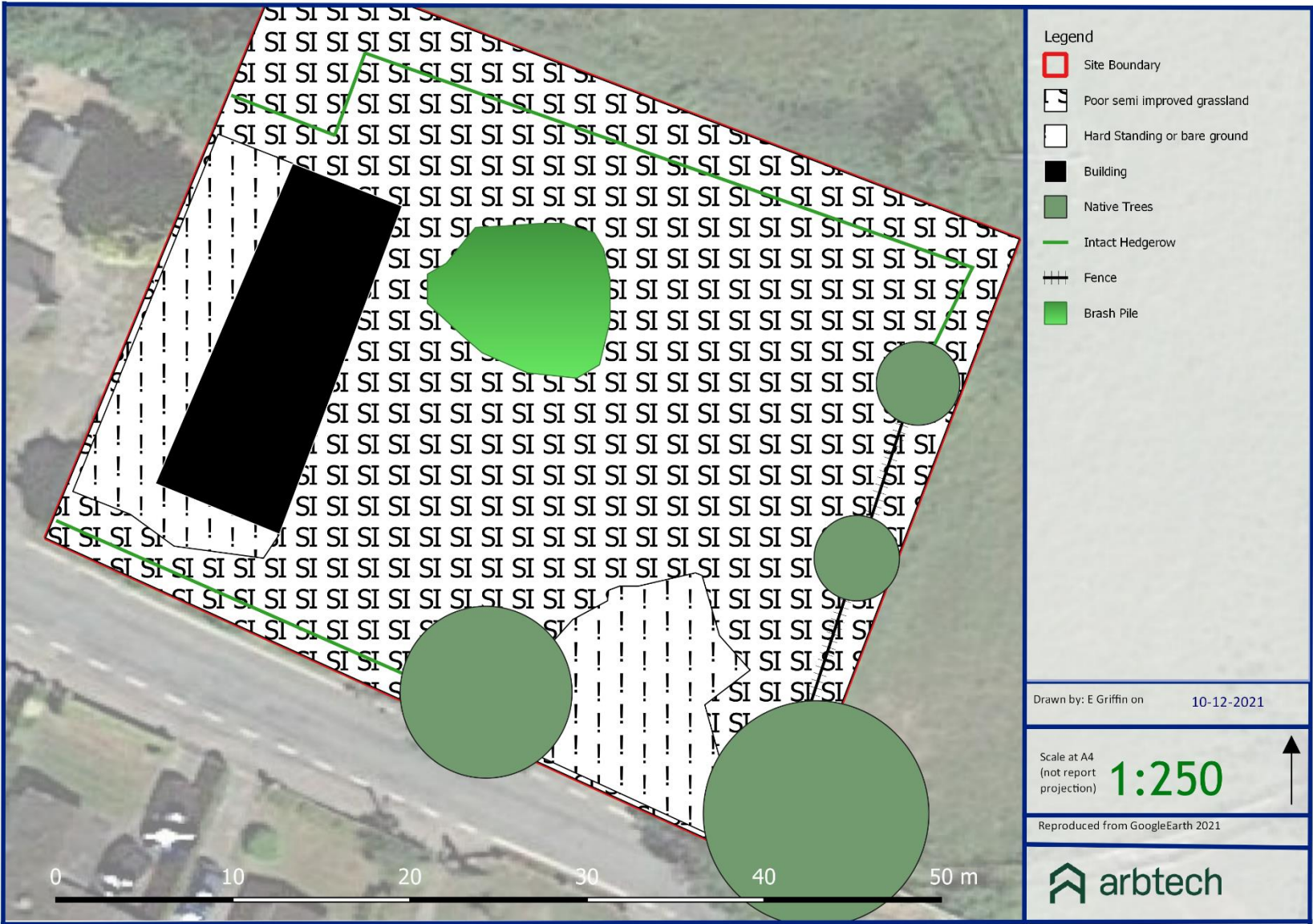
Appendix 3: Desk Study Information

MAGiC

Designated Sites



Appendix 4a: Habitat Survey Plan



Appendix 4b: PRA Survey Plan



Appendix 5: Legislation and Planning Policy

LEGAL PROTECTION

The ***Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*** came into force when Britain left the European Union on 31st January 2020. It covered amendments relevant to this survey to:

- Wildlife and Countryside Act 1981: England and Wales (x1 amendment)
- Conservation of Habitats and Species Regulations 2017 (x29 amendments)

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 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 1,000 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 within the EU, both within and outside Natura 2000 sites.

Annex V species (over 90): Member States must ensure that 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.

SACs and SPAs up to 12 nautical miles from the coast (i.e. 'territorial waters') are afforded protection in the UK under the Conservation of Habitats and Species Regulations 2017 which consolidate all amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994.

The Conservation of Offshore Marine Habitats and Species Regulations 2017 consolidate and update the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007. The 2017 Regulations introduce amendments which transfer responsibility for European nature conservation in the Welsh offshore region to Welsh Ministers. This gives Welsh Ministers similar powers in Welsh offshore waters to those currently exercised by Scottish Ministers in Scottish offshore waters. These regulations transpose into national law Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive), and elements of Council Directive 2009/147/EC on the conservation of wild birds (Wild Birds Directive) in the

UK offshore area. They came into force on 30th November 2017. These regulations apply to the UK's offshore marine area which covers waters beyond 12 nautical miles, within British Fishery Limits and the seabed within the UK Continental Shelf Designated Area. The Conservation of Habitats and Species Regulations 2017 form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12nm 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 Habitats Directive

The EC Habitats Directive aims to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those species of European importance. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017 (the Conservation Regulations) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). This has been amended by the ***Conservation of Habitats and Species Regulations (amendment) (EU Exit) Regulations (2019)*** which continue the same provision for European protected species, licensing requirements and protected sites after the UK leaves the EU.

The following notes are relevant for all species protected under the EC Habitats Directive:

In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.

The Habitats Regulations do not define the act of 'migration' and, therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.

In order to obtain a European Protected Species Licence (EPSL), the application must demonstrate that it meets all of the following three 'tests':

- The action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment;
- There is no satisfactory alternative; and
- The action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

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

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

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

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

Badgers

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

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

Effects on development works:

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

Birds

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

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

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC) and are commonly referred to as “Schedule 1” birds.

This affords them protection against:

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

Effects on development works:

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

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

Amphibians and Reptiles

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

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

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

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

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

- Intentionally or recklessly kill or injure these species.

Effects on development works:

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

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

Water Voles

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

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

Effects on development works:

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England, Natural Resources Wales, Scottish Natural Heritage) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and translocation of water voles may be issued by the relevant countryside agency for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

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

- Deliberate killing, injuring or capturing of Schedule 2 species

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

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

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

Effects on development works:

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

Bats

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

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

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

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

Effects on development works:

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

Hazel Dormice

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

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

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

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

Effects on development works:

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

White Clawed Crayfish

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

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

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

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

Effects on development works:

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

Wild Mammals (Protection Act) 1996

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

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

Legislation Afforded to Plants

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

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

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)
- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof
- In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:
 - Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species
 - Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

Effects on development works:

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

Invasive Species

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

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

Effects on development works:

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

Injurious weeds

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

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

Effects on development works:

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