Chapel House, Bronington

Net Biodiversity Benefit Plan

Prepared for Kerry Grootveld

February 2025

Rev03

SURVEY AND REPORT VALIDITY

It is important that planning decisions are based on up-to-date ecological reports and survey data. However, it is difficult to set a specific timeframe over which reports or survey data should be considered valid, as this will vary in different circumstances. In some cases there will be specific guidance on this (such as for the age of data which may be used to support a protected species licence application) but in circumstances where such advice does not already exist, the Chartered Institute of Ecology and Environmental Management (CIEEM) has provided the general advice set out below.

Age of Data / Survey / Report	***Validity***
Less than 12 months	Likely to be valid in most cases.
12-18 months	Likely to be valid in most cases with the following exceptions: • Where a site may offer existing or new features which could be utilised by a mobile species within a short timeframe; • Where a mobile species is present on site or in the wider area, and can create new features of relevance to the assessment; • Where country-specific or species-specific guidance dictates otherwise.
18 months to 3 years	A professional ecologist will need to undertake a site visit and then review the validity of the report. Some or all of the other ecological surveys updated.
Protected Species Licensing	Licence applications usually only possible using data less than 2 years old

The likelihood of surveys needing to be updated increases with time and is greater for mobile species or in circumstances where the habitat or its management has changed significantly since the surveys were undertaken. Factors to be considered include (but are not limited to):

- Whether the site supports, or may support, a mobile species which could have moved on to site, or changed its distribution within a site;
- Whether there have been significant changes to the habitats present (and/or the ecological conditions/functions/ecosystem functioning upon which they are dependent) since the surveys were undertaken, including through changes to site management;
- Whether the local distribution of a species in the wider area around a site has changed (or knowledge of it increased), increasing the likelihood of its presence.

TURNSTONE ECOLOGY LIMITED

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1 INTRODUCTION

1.1 General

This Net Biodiversity Benefit Plan has been completed in connection with the proposed renovation and re-modelling works to an existing dwelling at Chapel House, Bronington, Shropshire (OS Grid Location SJ 494 408 The location of the site is shown in *Figure 1 & 2*.

Planning permission for the renovation and re-modelling of the Grade 2 listed Chapel building, associated improvements to access and exterior landscaping works has been granted by Wrexham County Borough Council (*Ref: BRN P/2023/0143*) (*Figure 3*).

Figure 1. Location of Chapel House, Bronington

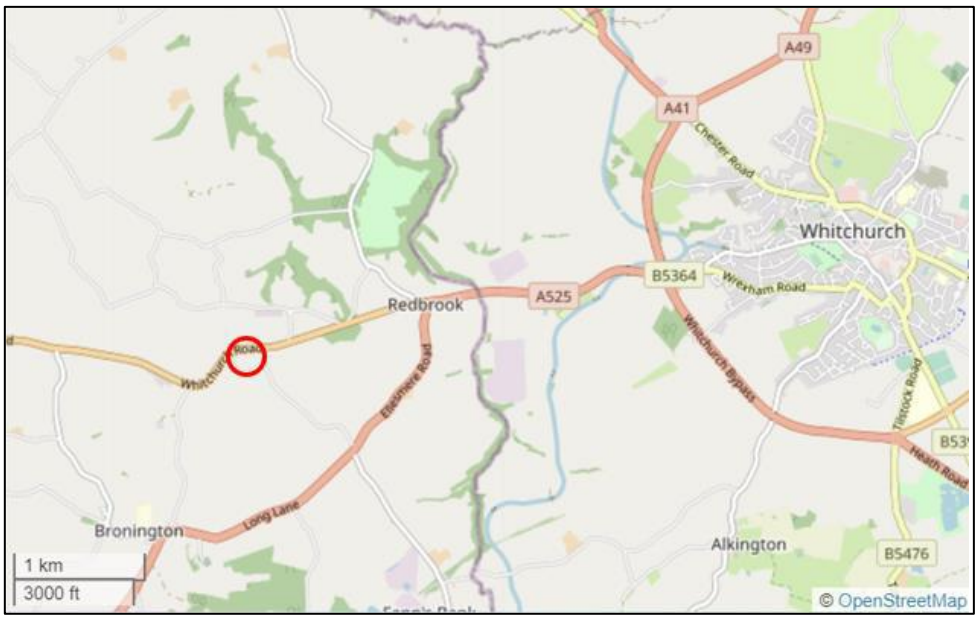


Figure 2. Location of Chapel House, Bronington and surrounding landscape



1.2 Purpose of Document

A copy of this document is to be kept on site to provide information on sensitive habitats and protected species. This document details ecological mitigation and enhancement measures that will also need to be completed.

This Net Biodiversity Benefits Plan relates to following ecological related conditions for the proposed renovation and re-modelling at Land at Chapel House, Bronington. The report specifically relates to discharging Condition 4; as referenced below:

4. No development shall commence until a detailed Net Biodiversity Benefit Plan has been submitted to and approved in writing by the Local Planning Authority. The approved details shall be implemented in-full prior to the first beneficial use of the extension hereby permitted and shall be retained thereafter for as long as the development remains in existence.

Reason: To ensure the development delivers net benefit to biodiversity in accordance with Paragraph 6.4.5 of Planning Policy Wales (Edition 11).

2 HABITATS AND PROTECTED SPECIES

2.1 Ecological Context

Chapel House, Bronington is located adjacent to the main Wrexham to Whitchurch A525 road, approximately 3.5 km west of Whitchurch town centre. The site comprises an unoccupied Grade II listed converted Methodist Chapel, known as Chapel House, and associated garden areas. The proposals include the renovation of the Chapel including replacement windows and doors, internal alterations, works to repair the existing roof and wall tops, and new patio and paving along the western side of the building. External landscaping works will be carried out, once the works to the Chapel have been completed. New (and repairs to existing) fencing will be installed along the eastern, western and southern boundaries of the property.

The site is bordered by Leylandii hedgerows to the west and east, and a fence line overlooking an agricultural field to the south. There are no linear habitat features along the site's northern boundary. The wider landscape is dominated by agricultural fields, woodland pockets and scattered residential houses and farms.

2.2 Background

A Preliminary Roost Assessment was completed on 26th July 2022 and Bat Activity Surveys were completed between July and September 2022. An updated Bat Activity Survey was completed in July 2024 which included a site walkover to provide up to date information on habitats and protected species potentially present on site and inform appropriate ecological mitigation and protection.

2.3 General

Due to the nature of the works, there is the possibility that the project will result in indirect impacts on wider habitats and protected species present/potentially present within bordering habitats, such as the adjacent treelines.

The following sections detail the appropriate mitigation, enhancement and management measures to ensure no negative direct or indirect impacts on notable habitats or protected species and ensure that the proposals will result in an overall increase in biodiversity at the site.

Prior to commencing work on site an ecologist will visit site to complete a site walkover and meet with contractors. The aim of the site walkover will be to assess the site and confirm the extent of works with the contractors. On completion of the site walkover the ecologist will deliver a toolbox talk where this document will be discussed and safe working methods presented. The details contained in this document will also form part of the on-site induction so that all site personnel are aware of the scheme and what measures are in place to prevent any impact on ecology.

All site personnel involved in the development work will sign the declaration at the end of this document to state they have read and fully understood all of the details within this document. The declaration and sign off sheet are included in *Appendix 3*.

2.4 Designated Sites

2.4.1 General

There are no designated sites within 2 km of the proposed development site.

2.4.2 Background records

There are records of Common Pipistrelle (*Pipistrellus pipistrellus*) from a site approximately 1.8 km south of the proposed development (NBN, 1995 – 2014, undisclosed recorder) and Brown Long-eared Bat *(Plecotus auritus)*, at a site approximately 1 km north-east of the proposed development site (NBN, 1994, Anon OGL).

3 PROTECTED SPECIES MITIGATION AND ENHANCEMENT

3.1 General

The Bat Activity Surveys determined that Chapel House supported two day roosts of Myotis spp. and one day roost of Whiskered Bat *(Myotis mystacinus)* within the roof/wall tops of the building. No evidence of any other protected species was found within or immediately adjacent to the proposed development footprint during the survey, but there are habitats with suitability for Badger, nesting birds and reptiles. Dormouse and Great Crested Newts are considered to be absent from the application site and will not be impacted by the proposals.

The following section details the potential impacts and appropriate mitigation, enhancement and management measures to ensure no negative impacts on protected species and ensure the proposals will result in an overall increase in biodiversity at the site.

3.2 Badger

No evidence of Badger was recorded on site however the site is suitable for sett creation, foraging and commuting Badger.

3.2.1 Mitigation

Safe working measures relating to Badgers will be put in place prior to construction works commencing on site. These measures will include:

- A pre-construction survey by a suitably experienced ecologist to check for any newly excavated setts.
- In order to ensure foraging Badgers do not become trapped within any excavations these should either not be left uncovered overnight or ways of escape for Badgers provided (wooden planks or graded earth banks).

Extensive areas of optimal foraging habitat will remain post-works and the loss of small areas of garden and existing hard standing surfaces is unlikely to be a significant habitat loss for any local Badger populations. Therefore, no specific enhancement measures for Badger are considered necessary

3.3 Bats

3.3.1 Impacts

Based on the results of the Preliminary Roost Assessment and Bat Activity Surveys, the dwelling was found to support two day roosts of Myotis spp. and one day roost of Whiskered Bat. The proposed roof

repairs, renovations and remodelling works would therefore cause the loss or disturbance of three day roosts and/or injuring/killing of up to three Myotis spp. bats.

3.3.2 Mitigation and Compensation

Destruction and/or disturbance of bat roosts can only occur under the Bat Mitigation Licence obtained from Natural Resources Wales (NRW), which will include agreed safe working methods and mitigation plan. The methods will include;

- Works to commence following receipt of a Bat Mitigation Licence from NRW.
- Works affecting roosting locations to be undertaken when overnight temperatures are consistently above 9°C.
- Prior to the start of works a suitably qualified ecologist will deliver a toolbox talk to contractors and staff on site, informing them of the likelihood of encountering bats, what to do if they find bats and give a brief overview of the licence documents.
- Provision of roosting locations for the duration of works with three Schwegler 2F (or equivalent) bat boxes erected on retained boundary trees along the southern/western boundaries of the property, or pole-mounted, within the ownership boundary *(Figure 3)*. The bat boxes will be retained and maintained for the lifetime of the development.
- A wooden bird box will be placed adjacent to each of the bat boxes to help ensure the bat boxes remain open for use by bats.
- Checking by a licenced ecologist of all known and potential roosting locations. If the entirety of a feature can be searched and found to be empty, it will be blocked using newspaper or expanding foam. If the feature cannot be fully searched, or is found to be supporting a roosting bat, it will be excluded using folded acetate or similar to allow bats to leave the feature but not re-enter. If exclusions are used, they will be left in place for a minimum of five nights of suitable weather conditions (above 9°c). Following this they will be permanently filled using the same methods as above.
- Roof stripping and repair works, any removal or alteration of lead flashing or tiles will be completed under the watching brief of a licenced ecologist, with the roof tiles being removed/replaced or repaired carefully by hand. As the wall tops are key roosting features any works around the wall tops will also be completed under the watching brief of the licenced ecologist. The location of the scaffolding will need to be confirmed in advance, by the licenced ecologist to ensure access points are not blocked by scaffolding.
- If a bat is found during works, they will be caught by a licensed ecologist who will be wearing suitable gloves. The bat will be placed into a cloth bag and carefully placed into the previously erected bat box.
- No scaffolding to be erected over suitable access points for roosting bats until features have been checked, filled or excluded – the licenced ecologist will confirm suitable locations for scaffolding and highlight roosting areas to be avoided.

- Features used by bats will be retained or recreated with the roost at the wall top on the northern corner of Chapel House and the roost at the drainpipe on the southern aspect of the Chapel being retained post-development, some disturbance will occur during the construction phase and temporary exclusion whilst scaffolding is up may be required.
- If roosting features are to be lost then these must be replaced with similar features during the renovation and remodelling phase of the project.
- Additional simple roosting features will also be created by incorporating at least two bat tiles into the roof of Chapel House and two Beaumaris Woodstone Bat Boxes (or equivalent) onto the southern aspect of Chapel House *(Figures 4 & 5).*
- Breathable roofing membranes (BRM) must not be used in the re-roofing or repair works due to issues with bat entanglement and reduced membrane performance if used in areas of bat use. 1F bitumastic felt must be used instead.
- Dry ridge systems must not be used, a traditional mortar ridge will be used instead due to issues with bat entanglement.
- Where bat boxes and/or roost features are positioned above windows a cowl should be incorporated above the window to deflect light spill down and away from the bat box/roosting feature.
- No lighting directed on known, potential or newly created bat roost access points and roosting features and only movement activated timed security lighting used outside of newly created and retained roosting locations. The lighting plan will be approved by the project Ecologist prior to implementation.

Figure 3. Bat and bird box locations on mature trees (or pole-mounted) to the west and south of the site (blue stars =Schwegler 2F, or equivalent, and bird nest boxes).

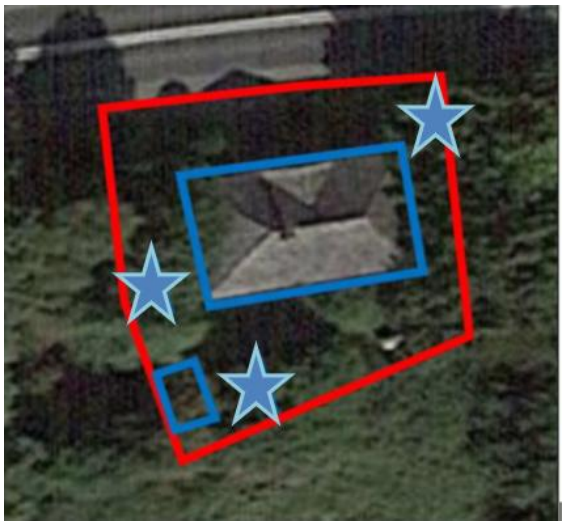


Figure 4. Beaumaris Woodstone bat box locations on Chapel House (red rectangle)

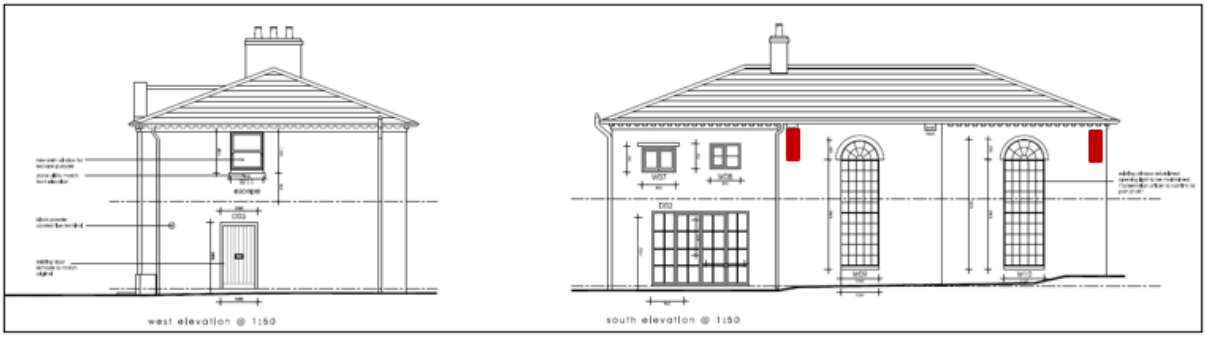


Figure 5. Lifted ridge tile locations on Chapel House (green rectangles)

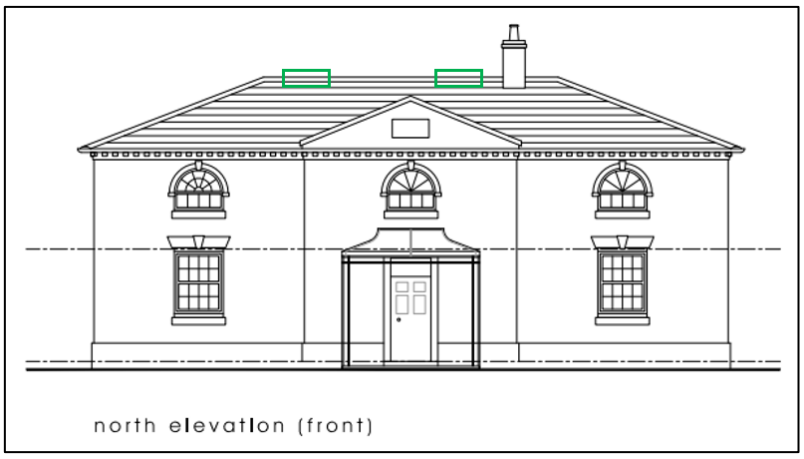
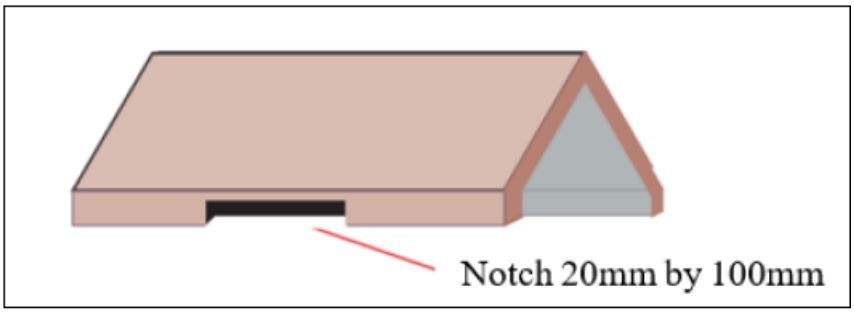


Figure 6. Creation of access and roosting opportunities under lifted ridge tiles in new roof



3.4 Dormouse

3.4.1 Impacts

There are no historic records of Dormouse for the area where the proposed development is located but although not ideal the boundary trees are suitable for Dormouse to be present, although there is a lack of connectivity between the site and optimal Dormouse habitat. The proposed works will not impact

suitable Dormouse habitat and the presence of Dormouse within the footprint of the proposed works is considered very unlikely.

Negative impacts as a result of the proposals are not predicted and no specific safe working measures for Dormouse or mitigation measures are considered necessary for the works at Chapel House.

3.5 Birds

3.5.1 Impacts

No evidence of nesting birds was recorded in or around Chapel House during the surveys. Chapel House is of limited suitability for nesting birds with features limited to gaps at the wall tops where birds could enter the main loft space. The majority of the habitats impacted by the proposed works are buildings, hard standing and ornamental garden areas, which are of limited suitability for nesting birds.

3.5.2 Mitigation and Compensation

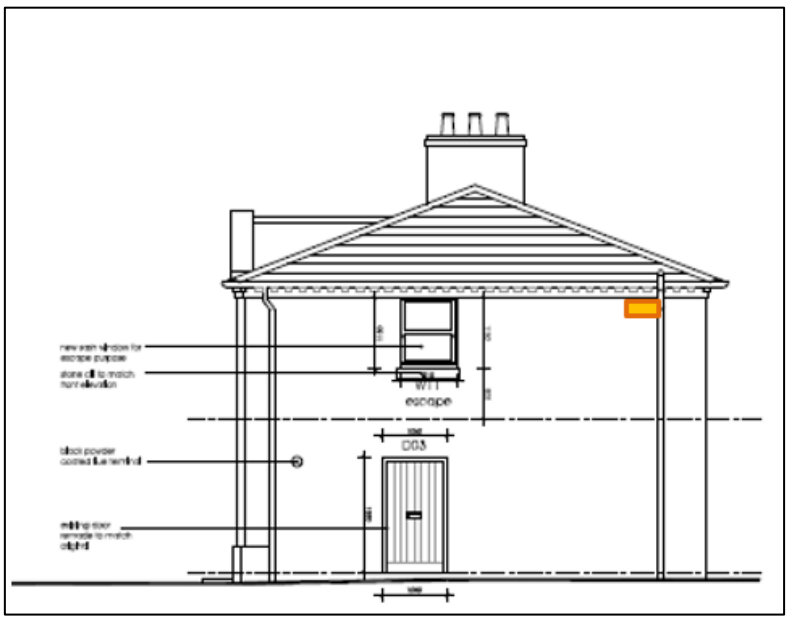
Although the proposed works will have a limited impact on suitable nesting habitat for birds, as part of planning policy a net increase in biodiversity value is required. As such new nesting provision must be included within Chapel House or the adjacent habitat (within the ownership boundary).

A combination of one hole-fronted and one open-fronted nest box will be pole-mounted to the west and south of the site adjacent to the bat boxes (*Figure 3*) and one Sparrow Terrace such as the Schwegler 1SP (or equivalent) is to be erected on the western elevation of Chapel House *(Figure 7)*.

Overall habitat loss is likely to result in only a negligible impact on nesting birds, with the treelines to the east and west of the Chapel remaining unaffected by the works. A single English Oak *(Quercus robur)* has been removed, this tree was located along the southern (fence line) boundary of the site. Compensatory hedgerow with in-hedge tree planting has been proposed which will compensate for the loss of the Oak tree and offer nesting habitat for bird species found locally as well as food sources. The planting of the hedgerow will increase habitat connectivity between the site and adjacent tree lines.

Any clearance of dense vegetation within the rear garden area should be completed outside of the breeding season (March – August inclusive) and if this is not possible then a pre-construction bird survey will need to be completed by a suitably qualified ecologist. Depending on the presence and location of nesting birds and species, if recorded, breeding effort may have to be allowed to finish before any works to the property commences.

Figure 7. Location of Sparrow Terrace box on the western aspect of Chapel House (orange rectangle)



3.6 Great Crested Newt

There is habitat suitable for use by Great Crested Newts during terrestrial phases of their lifecycle, but there are no ponds within at least 500m of this part of site and works will only affect small areas of grassland, ornamental garden and hardstanding that are not ideal for Great Crested Newt.

The lack of nearby suitable breeding ponds and extent and suitability of habitats affected by the proposals in these areas means the presence of Great Crested Newts is considered very unlikely. Therefore, no species-specific enhancement is considered necessary.

Precautionary safe working measures will be put in place for reptile species (see section below) and will also ensure that there will be no negative impact on Great Crested Newt in the highly unlikely event that they are present on site. In the unlikely event of a Great Crested Newt being found during any stage of the construction process all works must cease, an ecologist informed, if not already present on site, and NRW contacted to discuss an acceptable course of action.

3.7 Reptiles

Impacts

The tree lines to the east and west of Chapel House and field to the rear of the property offer some suitable habitats for reptiles but the areas directly impacted by the works to Chapel House are of mostly of low suitability for reptiles and are unlikely to be used by common reptile species. During works to

the rear garden area Reasonable Avoidance Measures (RAMs) are to be followed to ensure no negative impacts to reptiles.

Mitigation and enhancement

Although the presence of reptiles in the proposed works areas is unlikely, there is suitable habitat for reptiles within the immediate vicinity and the rear garden offers some suitable reptile habitat, so precautionary safe working measures must be followed during the remodelling and renovation works to Chapel House. These methods will include;

- Habitat modification (*e.g.* cutting and maintaining of vegetation within the garden areas to just above ground level prior to works) to discourage reptiles from occurring;
- Clearance of any rubble and spoil piles when reptiles are usually active (March to October inclusive) and under a watching brief by a suitably experienced ecologist;
- During construction, any storage of piles of materials and excavated earth on the site are to be kept to a minimum and away from vegetated areas around the construction areas on site to deter reptiles from using them for temporary cover;
- Careful removal of stone and rubble from the garden areas, with hand checking by an Ecologist during this process to ensure no over-wintering reptiles are present, and;
- In the unlikely event that any reptiles are found during works all activities must cease and a suitably experienced ecologist should be contacted to discuss an appropriate course of action.

During the landscaping phase of the works one hibernacula is to be created in the southern corner of the site, adjacent to the boundary fence line to increase suitable area for reptiles, amphibians and newts on site. An example of a suitable hibernaculum can be seen in *Figure 8* below with the location for this in *Figure 9.*

Figure 8. Example of a hibernaculum suitable for reptiles, newts and amphibians, to be created along the southern garden boundary of Chapel House

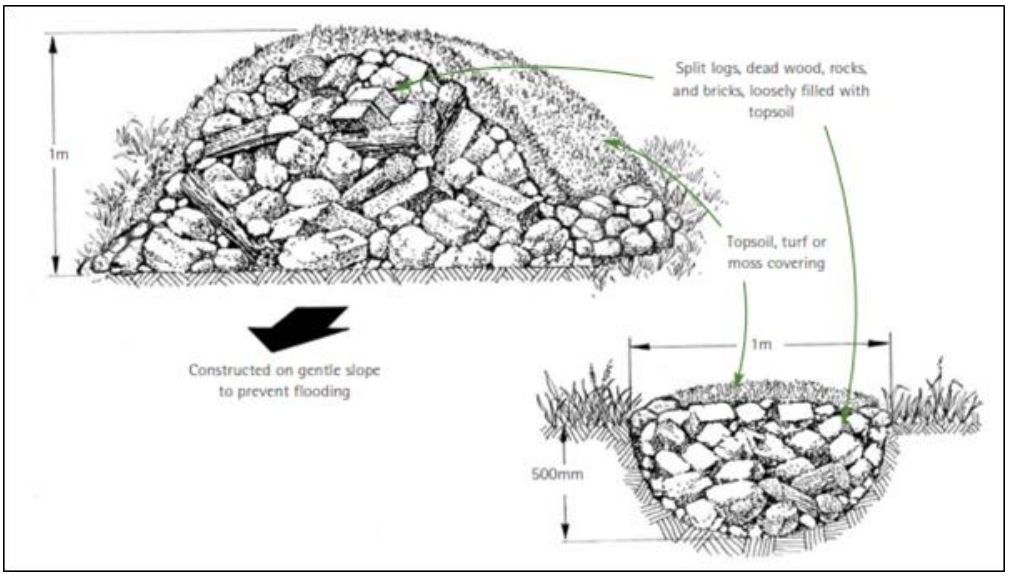


Figure 9. Location of Hibernaculum creation on-site (blue star)



3.8 Other Species

3.9 Hedgehog

There is the potential for Hedgehog (*Erinaceus europaeus*) to be present on site within the wider ownership boundary; particularly within the trees to the east and west of Chapel House as these habitats provide good areas for feeding and breeding Hedgehog. Hedgehogs are particularly vulnerable to disturbance between May and October when litters of hoglets are born and during the winter months when they may be hibernating. Although habitats suitable for foraging, resting or hibernating Hedgehog

will not be directly affected by the proposals, the following precautionary mitigation measures and safe working methods will be adhered to during construction:

- A toolbox talk will be given to all staff/construction works on site prior to works commencing. The toolbox talk will highlight key areas of habitat that are to remain unaffected during and post-construction works and provide contact details and procedures to follow should Hedgehog be found within the construction zone.
- Any excavations will be backfilled (and suitably compacted) before nightfall or if this is not possible a ramp (or similar structure) will be provided to allow animals an opportunity to escape; and
- All cleared vegetation and soil or construction materials will be stored at least 5m away from the boundary treelines and will be kept raised off the ground, e.g. on pallets; to prevent Hedgehogs from sheltering underneath.
- Any chemicals that are required for the construction works and project will be stored in tightly sealed containers, away from suitable Hedgehog habitats and in a manner that prevent small mammals from opening or becoming trapped within chemical containers/vessels.

General proposed habitat enhancement and creation will benefit Hedgehog, with the new hedgerow planting improving habitat corridors between the site and adjacent tree lines by creating a corridor along the bottom of the Chapel House site. The created hibernacula for reptiles/amphibians will also be suitable for Hedgehog. Any new fencing must include hedgehog holes (15cm x 15cm) to ensure no barriers to hedgehog movement between the site and adjacent foraging and nesting areas. Where fencing is proposed the Ecologist will highlight best locations for hedgehog access holes.

3.10 Invertebrates

3.10.1 Impacts

The garden areas on site are of some suitability for invertebrates and likely offer some food sources for pollinators in the spring and summer months.

3.10.2 Mitigation and enhancement

In order to enhance the site for invertebrates, including pollinating insects, appropriate enhancements will be incorporated into the proposed landscaping works.

The proposed new hedgerow planting will increase habitat available for a number of invertebrate species present locally and improve habitat connectivity between the site and adjacent tree lines/habitat. One insect house will be affixed to the newly erected fence along the eastern boundary and one insect house will be affixed to the existing fence line along the southern boundary of the site. These boxes will remain largely undisturbed during works as they are to be cited close to retained trees and should provide suitable habitat for species such as solitary bees due the boxes being adjacent to farmland and gardens

which are optimal areas for numerous invertebrate species. The insect houses must be a minimum of 1m from the ground and ideally located close to retained vegetation. Insect houses offer a range of niches for a variety of insects including solitary and communal bees, ladybirds, lacewings and hoverflies, all of which have suffered significant decline in recent years. An example insect house is shown in *Plate 1* with locations for these boxes shown in *Figure 10.*

Plate 1. Example of a fence-mounted insect house



Figure 10. Location of two insect houses on newly installed and retained fences (yellow stars)



4 HABITAT MANAGEMENT

4.1 General

The proposed development will directly affect an area of ecologically poor ornamental garden as well as areas of hardstanding of limited ecological value. A single English Oak tree located along the southern fence line boundary of the site has been felled which, prior to removal offered some ecological value.

The following section details the potential impacts and appropriate mitigation, enhancement and management measures to ensure no negative impacts on notable habitats and ensure the proposals will result in an overall increase in biodiversity at the site.

4.2 Habitats

4.2.1 Ornamental gardens

Impacts, Mitigation & Enhancement

The loss of ornamental garden areas as a result of the proposed landscaping is unlikely to have a significant negative ecological impact, but in order to enhance the site for biodiversity, the planting of shrubs, flowers and grasses within the rear garden will be completed in accordance with the approved landscaping plan which includes the use of native shrub species. is recommended. Retaining a vegetated buffer along the rear garden fence line will ensure habitat connectivity between the treelines to the east and west and wider fields to the south of the property.

4.2.2 Hedgerows and trees

Impacts

One English Oak tree has been removed from site due to the root system negatively impacting the property. The root system of the tree had caused damage to the sewerage treatment plant and drains located within the southern garden area of Chapel House, with the root system of the tree posing a risk to LPG pipelines and below ground electricity cabling located within the area. Due to these issues the tree was felled to prevent further impacts to essential pipework, cables and the sewerage treatment plant and drains located to the rear of Chapel House. The Oak tree was located along the southern boundary of the site, see *Figure 11* for approximate location of this tree and *Plate 2* for photo of the tree prior to felling.

Some cutting back of the eastern and western tree lines is likely to occur in order to access the property with machinery and erect scaffolding around the Chapel; however, no trees within these tree lines are set for removal as they are outside of the ownership area.

Figure 11. Location of Oak tree on-site (prior to removal)



Plate 2. English Oak tree previously located along the southern boundary of Chapel House



Mitigation & Enhancement

To compensate for the loss of the Oak tree on-site, a hedgerow will be planted along the southern boundary to connect to the adjacent tree lines to the west and east of Chapel House. The hedgerow will total 25m in length and 4 native hedgerow 'maiden' trees will be planted within the hedgerow, spaced 6m apart, along with native hedgerow tree species. Small/medium growth trees within the hedgerows will be used due to the garden being a maximum width of 10m and tapering to 6m to the eastern end. As such, larger trees such as Oak cannot be planted as they would not be viable long term due to root zone spread impacting on drains/pipelines and the sewerage treatment plant. In addition the suggested replacement ratio of 3:1 (for the loss of the Oak tree) is not considered appropriate due to the size of the garden at Chapel House. A single mature Oak tree was felled due to issues with the root system, and it is very likely that the replacement trees would have insufficient space to reach maturity and that any specimens that do would cause similar root issues in the future. The suggested approach of planting 'maiden' trees within a native hedgerow is considered ecologically appropriate and is in keeping with the general landscape characteristics of the area. The 'maiden' trees along with the native hedgerow species will provide a range of foraging opportunities for pollinating insects (by providing early blossoms) as well as fruits for wintering birds and mammals.

To create a species rich hedgerow more than five woody species will be used in the hedgerow planting with only native flora selected and targeted planting of whips of poor colonisers (such as Spindle) to offer valuable food sources for locally found invertebrate species. Locally occurring native species from British grown stock of local provenance (Wrexham or surrounding counties) will be used and hedgerow planting will include a mix of any of the following species: Blackthorn *(Prunus spinosa),* Hawthorn *(Crataegus monogyna),* Hornbeam *(Carpinus betulus),* Field Maple *(Acer campestre),* Hazel *(Corylus avellana),* Elder *(Sambucus nigra),* Rowan *(Sorbus aucuparia),* Crab Apple *(Malus sylvestris),* Guelder Rose *(Viburnum opulus),* Spindle *(Euonymus europaeus),* Holly *(Ilex aquifolium),* Dog Rose *(Rosa canina agg.),* Wayfaring Tree *(Viburnum lantana)* or Honeysuckle *(Lonicera periclymenum).* 4 trees will be planted within the hedgerow, the tree species used will be Crab Apple, Wild Cherry *(Prunus avium)* and Damson *(Prunus insititia)* as these offer excellent food sources for birds and invertebrates.

The base of the new hedgerow will be seeded with an herbaceous mix during the autumn. Appropriate seed mixes of local provenance can be sourced from www.naturescape.co.uk and their N9F seed mix would be suitable which contains a mix of 25 native wildflower species and 10 species of grass. The mixture contains a diverse range of species suitable for both sun and semi-shade including Garlic Mustard *(Alliaria petiolata),* Wild Foxglove *(Digitalis purpurea),* Self Heal *(Prunella vulgaris)* and Hedge Woundwort *(Stachys sylvatica).* A buffer strip of 1 metre from the hedgerow is to be created to allow a thick hedgerow base to develop which offers habitat for small mammal species and invertebrates. Umbellifers such as Cow Parsley *(Anthriscus sylvestris),* Hogweed *(Heracleum sphondylium),* Wild Parsnip *(Pastinaca sativa)* and Hedge Parsley *(Torilis arvensis)* that establish naturally are to be retained and flowers left to go to seed to increase abundance of this floral group within the hedgerow buffer strip.

New hedgerow and tree plants should be fully hardened off 40 – 60 cm bare root whips (1 + 1), planted at a density of six plants per metre (double spaced) between November and March and staked and protected with a bio-degradable tree/rabbit guard. A water supply will be provided at planting of a minimum 170 litres per standard/large, feathered tree, 10 litres per transplant tree or 4 litres per shrub and mulching or weed suppressing mats used to aid good establishment of woody species. Herbicides (e.g. Glysophate) will not be used either at the planting stage or in long-term site management practices.

All plants and planting to comply with the requirements of all current / relevant British Standard Specifications including BS8545:2014 and BS3936: Parts 1, 4, 9 and 10 and BS5236:1975 where applicable; BS4428:1989; and Bali / Li / Nursery Trade Tender Document (5th edition:1986).

The approved areas of groundworks will be confined to areas that will not impact on the root systems of all retained boundary trees to the east and west of the approved development site. An appropriate buffer around all retained trees, as detailed in BS5837:2012, will be established prior to works commencing on site and maintained during the construction period. Heras type fencing will be positioned between 0.8–1m away from the spread of the retained trees/tree lines. Any roots discovered larger than 25mm outside of the buffer zone will be alerted to the building inspector for comment and then design changes will be made to the footings as required.

Management and monitoring

Hedgerows can take 5 years to reach optimal condition, long-term management practices will be carried out to favour wildlife with autumn or winter cutting only in order to avoid the nesting bird period and allow a longer flowering period which benefits invertebrates. Minimising cuts of the hedgerow to every 2 to 3 years instead of annually will also help to favour pollinators and coppicing and/or hedge laying will be required within 5 years of planting and must only be undertaken between the 30th of September and 31st March when the hedge is still dormant.

The new hedgerow and trees will be monitored for a minimum 5 years to check establishment and if die-back or failure to establish occurs then re-planting will be required. Re-planting will replace the original species and be of a similar size. Once established the tree guards should be removed, if they have not degraded fully.

Figure 12. Proposed location of new hedgerow, with native, in-hedgerow trees (new hedgerow = green line, new trees = yellow circles)



5 LIGHTING

5.1 Construction Lighting

During the construction phase lighting will be directed away from retained tree lines to the east and west and the field to the south of the site to ensure that suitable roosting, foraging, and commuting habitats remain unlit.

No lighting of over 2000 lumens (150 W) to be used on site in accordance with the Bat Conservation Trust Bats and Lighting in the UK guidance *(Guidance Note 8 Bats and Artificial Lighting; 2023).*

5.2 Post-development Lighting

The proposed development will use lighting in accordance with the Bat Conservation Trust's Bats and artificial lighting in the UK; Guidance Note 8 Bats and Artificial Lighting (2023) guidance note. The following lighting plan for the development will minimise light spill to existing treelines on site and the fields to the south of the site as well as ensuring that bat roosting features will remain un-lit. Where possible between the hours of dusk and dawn lights are to be on motion activated sensors.

The following must be considered when choosing lighting for the development site:

- All external lighting will be positioned no higher than the top of the ground-floor level / well away from bat access features and comprise of a 20W LED hooded downlighter operated by an internal switch, and activated externally by motion detection, with automatic cut-off.
- All exterior lighting will lack UV elements. Metal halide, fluorescent sources should not be used.
- LED lighting should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Lighting should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- The use of specialist bollard or low-level downward directional lights should be used along footpaths and walkways; if required
- Lighting is to be kept away from the retained western and eastern tree lines with a dark zone buffer between the Chapel and the tree lines maintained. Only motion activated lighting is to be used in these areas, and only lighting with directional hoods/baffles/louvres to minimise light pollution to the wider landscape.
- Any external security lighting on the Chapel should be set on motion-sensors and short (1min) timers.

6 PERSONNEL RESPONSIBILITIES

The site owner, Kerry Grootveld will be legally responsible for the implementation of this management plan and will do so with the assistance of Turnstone Ecology Ltd, or an alternative suitably experienced ecologist. All ecological mitigation and enhancements have been agreed and will be funded and completed in full by the site owner.

Legal Responsibility	Persons Responsible	Contact Details (email address and phone number)	Signature
Compliance with legal consents relating to nature conservation	Kerry Grootveld	k.grootveld@icloud.com	
Compliance with planning conditions relating to nature conservation	Kerry Grootveld	k.grootveld@icloud.com	
Installation of physical protection measures during construction	Kerry Grootveld	k.grootveld@icloud.com	
Implementation of sensitive working practices during construction	Kerry Grootveld	k.grootveld@icloud.com	
Regular inspection and maintenance of physical protection measures and monitoring of working practices during construction	Kerry Grootveld	k.grootveld@icloud.com	
Provision of training and information about the importance of 'Wildlife Protection Zones' to all construction personnel on site	Turnstone Ecology Ltd (or other project-nominated Ecologist)	jbutler@turnstoneecology.co.uk	

7 ECOLOGICAL TRENDS AND CONSTRAINTS

The area affected by the proposals is dominated by ecologically poor ornamental gardens and hardstanding habitats. Specific mitigation measures to negate the loss of the gardens and hardstanding areas are not considered necessary but appropriate mitigation measures are needed to protect adjacent habitats of higher ecological value and there are opportunities to enhance the site as a whole for the long-term benefits of wildlife. Without the proposed habitat enhancement and management, the ecological value of the area of the proposed development site and site as a whole is unlikely to improve.

There are no predicted constraints with achieving the proposed ecological enhancements and management.

8 ECOLOGICAL CLERK OF WORKS

Prior to the start of works the Ecological Clerk of Works (ECoW) will complete a tool box talk to project managers and lead contractors to highlight the presence of ecological receptors and summarise the mitigation, safe working methods and Reasonable Avoidance Measures (RAMs) contained within this report.

The ECoW will also need to be present during the construction phase when works have the potential to affect ecological receptors present or potentially present on and around the proposed development site, as detailed in *Section 3*.

9 WORK SCHEDULE

The timetable below shows the scheduled work plan associated with the approved development, which will be updated based on the results of on-going monitoring, pre-construction surveys and confirmed timings of works. The management plan timetable should also be updated every year to ensure on-going environmental and habitat management for the benefit of ecological receptors.

✓ = Optimum timings, ✓ = sub-optimal timings, X = works not to take place during this period

Year 1 Activity	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Erection of bat and bird boxes on trees or pole-mounted	To be completed at start of works											
Maintain grassland within gardens at a short sward	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hibernacula creation along southern boundary	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Installation of insect houses following completion of groundworks on site	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tree and hedgerow planting	✓	✓	X	X	X	X	X	X	X	X	✓	✓
Erection of Sparrow Terraces and Bat Boxes on Chapel	To be erected as and when the works to Chapel House are nearing completion – at the end of the construction phase of works.											
Year 2 Activity	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Monitor tree and hedgerow planting carried out in year 1 and replant where required	✓	✓	X	X	X	X	X	X	X	X	✓	✓
Monitor and top up hibernacula as necessary	X	X	X	X	X	X	X	X	✓	✓	X	X
Year 3 Activity	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Monitor tree and hedgerow planting and replant where required	✓	✓	X	X	X	X	X	X	X	X	✓	✓
Monitor and top up hibernacula as necessary	X	X	X	X	X	X	X	X	✓	✓	X	X
Year 4 Activity	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**

Monitor tree and hedgerow planting and replant where required	✓	✓	X	X	X	X	X	X	X	X	✓	✓
Monitor and top up hibernacula as necessary	X	X	X	X	X	X	X	X	✓	✓	X	X
Year 5 Activity	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Monitor tree and hedgerow planting and replant where required	✓	✓	X	X	X	X	X	X	X	X	✓	✓
Monitor and top up hibernacula as necessary	X	X	X	X	X	X	X	X	✓	✓	X	X
Assessment of management and preparation of summary & recommendations report and updates to Management Plan as required	X	X	X	X	X	X	X	X	X	X	✓	✓

10 APPENDIX 1 – LEGISLATION

This section briefly describes the legal protection afforded to the protected species referred to in this report. It is for information only and is not intended to be comprehensive or to replace specialised legal advice. It is not intended to replace the text of the legislation, but summarises the salient points.

10.1 Badger

Badger is protected in Britain under the *Protection of Badgers Act 1992* and *Schedule 6* of the *Wildlife and Countryside Act 1981* (as amended). The legislation affords protection to Badgers and Badger setts, and makes it a criminal offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or to attempt to do so;
- interfere with a sett by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

10.2 Bats

All species of British bat are protected by *The Wildlife and Countryside Act 1981* (as amended) extended by the *Countryside and Rights of Way Act 2000*. This legislation makes it an offence to:

- intentionally kill, injure or take a bat;
- possess or control a bat;
- intentionally or recklessly damage, destroy or obstruct access to a bat roost; and
- intentionally or recklessly disturb a bat whilst is occupies a bat roost.

Bats are also a Protected Species listed on *Schedule 2* of the *Conservation of Habitats and Species Regulations 2017 (as amended)*. This legislation makes it an offence to:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats in such a way as to be likely to (a) impair their ability to: (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or b), to affect significantly the local distribution or abundance of the species to which they belong; and
- damage or destroy a breeding site or resting place of a bat; and
- possess, control, transport, sell, exchange a bat, or offer a bat for sale or exchange.

All bat roosting sites receive legal protection even when bats are not present.

Where it is necessary to carry out an action that could result in an offence under the regulations protecting bats and their roosts it is possible to apply for Mitigation Licence from Natural England (NE) or Natural Resources Wales (NRW). Three tests must be satisfied before this licence (to permit otherwise prohibited acts) can be issued:

- Regulation 55(1)(a) states that licences may be granted to "preserve public health or public safety or 55(6)(a) other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment."
- Regulation 55(2) and 55(7)(a) states that a licence may not be granted unless "there is no satisfactory alternative".
- Regulation 55(7)(b) states that a licence, in respect of imperative reasons of overring public interest (IROPI), cannot be issued unless the action proposed "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range".

10.3 Nesting Birds

All species of bird are protected under *Section 1* of the *Wildlife and Countryside Act 1981* (as amended). The protection was extended by the CRoW Act.

The legislation makes it an offence to intentionally:

- kill, injure or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- take or destroy an egg of any wild bird.

Certain species of bird are listed on *Schedule 1* of the *Wildlife and Countryside Act 1981* (as amended) and receive protection under *Sections 1(4)* and *1(5)* of the Act. The protection was extended by the CRoW Act. The legislation confers special penalties where the above mentioned offences are committed for any such bird and also make it an offence to intentionally or recklessly:

- disturb any such bird, whilst building its nest or it is in or near a nest containing dependant young; or
- disturb the dependant young of such a bird.

10.4 Great Crested Newt

Great Crested Newt is listed on *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), and receive full protection under *Section 9*. These species are also listed as a Protected Species on *Schedule*

2 of the *Conservation of Habitats and Species Regulations 2017 (as amended)*. Protection was extended by the *Countryside and Rights of Way Act 2000* (the CRoW Act).

Under the above legislation it is an offence to:

- kill, injure or take an individual of such a species;
- possess any part of such species either alive or dead;
- intentionally or recklessly damage, destroy or obstruct access to any place or structure used by such species for shelter, rest, protection or breeding;
- intentionally or recklessly disturb such a species whilst using any place of shelter or protection; or
- sell or attempt to sell any such species.

The Great Crested Newt is included as a Priority Species in the UK Biodiversity Action Plan (UKBAP) and also as a species of principal importance for the conservation of biological diversity in England under *Section 74* of the CRoW Act.

10.5 Common Reptile Species

Common Lizard, Grass Snake, Slow-worm and Adder are listed under *Schedule 5* of the *Wildlife and Countryside Act 1981* (as amended), in respect of *Section 9(5)* and part of *Section 9(1)*. This protection was extended by the CRoW Act.

Under the above legislation it is an offence to:

- intentionally or deliberately kill or injure any individual of such a species; or
- sell or attempt to sell any part of the species alive or dead.

11 APPENDIX 1 – SPECIES IDENTIFICATION SHEETS

11.1 General

Species identification sheets for reptiles and amphibians are included as there is the potential for some of these species to occur within construction and/or management areas. These sheets have been produced by the Reptile and Amphibian Groups UK and are freely available on the internet (http://www.arguk.org/advice-and-guidance/view-category).

It is considered that the following species could occur in the vicinity of the development site.

- Common Frog
- Common Toad
- Smooth Newt
- Great Crested Newt
- Grass Snake
- Slow Worm
- Viviparous Lizard

11.2 Guidance

The species identification sheets will be discussed at the tool box talk/site meeting. It is considered that is very unlikely that any of these species will occur within the approved development footprint but if an animal is found during any construction works not supervised by an Ecologist the safe working methods detailed below should be followed.

- Stop work and if possible, identify the animal found using the identification sheets.
- Ensure that the animal is not in immediate danger (clearly mark the area in which the animal has been found, inform other site personnel of the discovery, tell the site manager).
- Phone the Ecologist for advice (contacts are included in this section) and follow their instructions.
- Amphibians are likely to need to be carefully moved by hand to a suitable safe off-site area previously identified during the tool box talk. Reptile handling should be avoided if possible, with animals encouraged to leave the affected area unaided.
- **If it is thought that a Great Crested Newt has been found on site all works must stop and the ecologist contacted. No attempt must be made by site personnel to move a Great Crested Newt.**

Amphibian Identification

Common frog

Adults 6-7 cm. Smooth skin, which appears moist.

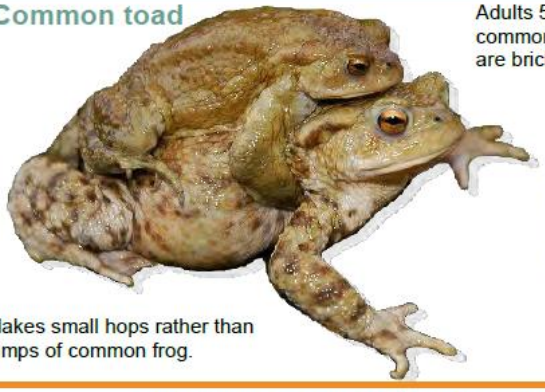
Coloration variable, includes brown, yellow and orange. Some females have red markings on lower body and underneath.

Markings also variable, including varying amounts of black spots and stripes.



Usually has dark 'mask' marking behind

Common toad



Adults 5-9 cm. Rough skin. Brown with darker markings. Less commonly, some individuals are very dark, almost black, others are brick red.

Makes small hops rather than jumps of common frog.

Toad spawn is laid in gelatinous strings, wrapped around vegetation. Less obvious than common frog spawn.



Tadpoles

On hatching, common frog and toad tadpoles are black. As they develop, common frog tadpoles become mottled with bronze, whereas toad tadpoles remain uniformly dark until the last stages of development.

Common frog and toad tadpoles generally complete development in the summer, but development rates are variable. Some tadpoles may not transform until later in the year, or they may even remain as tadpoles over winter, becoming much larger than normal.

Frog



Toad



Metamorphs



Young froglets look like smaller versions of the adults.

Newly emerged toadlets are often very dark in colour.



Natterjack toad

Similar in size and appearance to common toad, but with a distinctive pale stripe running along the back. This is a rare species, unlikely to be encountered outside specific



Strictly protected species, requiring a licence to handle or disturb.

Amphibian and Reptile Groups of the UK
VOLUNTEERS WORKING FOR THE CONSERVATION OF AMPHIBIANS AND REPTILES
ARG UK

amphibian and reptile conservation

Smooth newt

Grows to about 10 cm. Both sexes have orange or yellow belly stripe, with rounded black spots. Male has undulating crest running from head to tail tip.



Male



Female

Juvenile



A widespread species which breeds in a variety of water bodies. Often found in garden ponds.

After the 'tadpole' stage, young newts live on land. Most likely to be found from late summer to autumn as they disperse from ponds.

Palmate newt

Grows to 9 cm. Breeding male has ridge running along back, rather than a crest. Dark, webbed hind feet, and tail ends in filament.

Breeding male



Male terrestrial phase





There are two pale coloured nodules on the underside of the hind feet of female palmate newts.





Palmate



Smooth

Female looks similar to smooth newt.

Throat of palmate newt has no pigment (looks pink). Throat of smooth newt is off-white and usually spotted.

Great crested newt

Grows to 16 cm, but usually smaller. Crest in male has break at base of tail. Silvery-white stripe towards rear of tail conspicuous.

Both sexes have rough, granular skins and yellow/ orange bellies with irregular black spots.



Male



Female

Juveniles look like smaller versions of the female and may live on land or in the water.

Strictly protected species, requiring a licence to handle or disturb.

Reptile Identification



Viviparous lizard

Adults 13-15 cm. Coloration and markings variable. Background coloration generally brown.

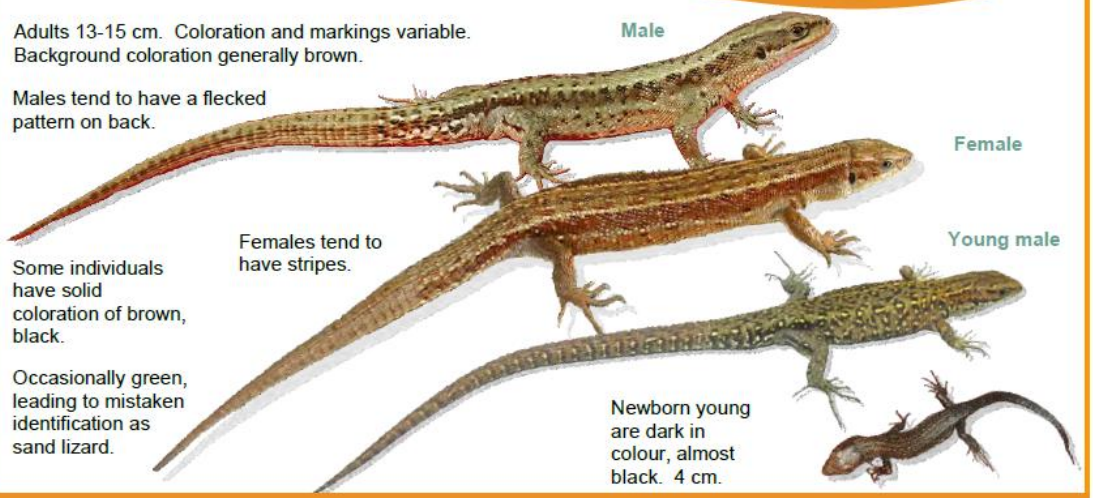
Males tend to have a flecked pattern on back.

Some individuals have solid coloration of brown, black.

Occasionally green, leading to mistaken identification as sand lizard.

Females tend to have stripes.

Newborn young are dark in colour, almost black. 4 cm.



Adder

A stocky snake, adults 40-70 cm.

Variable coloration. Males typically grey with a black zigzag stripe, females generally brown with a dark brown zigzag stripe. Black adders are found in some areas.

Wide distribution, but restricted to specific habitats (heathland, down, scrub, woodland edge, road and rail embankments).

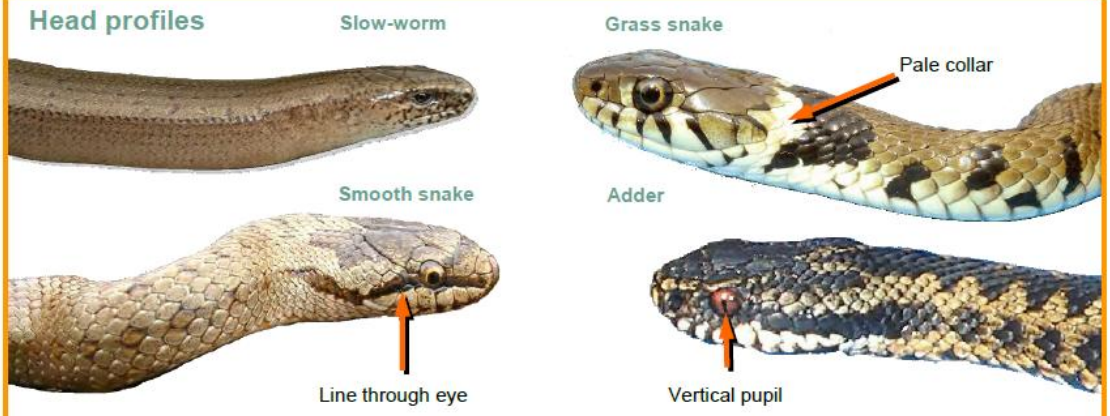
New-born 16 cm. Some young are brick-red, others have similar coloration to adults.







Head profiles



Note that many snake species are kept as pets and so escaped or released non-native snakes are occasionally encountered.

Slow-worm

Adults 35-40 cm. Generally grey or brown, very rarely black. Small, shiny scales, giving a metallic appearance.

Blue spots on some males.

The most common reptile in the UK, found in a variety of habitats, including gardens. It spends most of its time underground or in vegetation litter. Most likely to be found underneath objects lying on the ground, or in compost heaps.

Young have similar markings to the females, but better defined.



New-born 7-10 cm, with a black spot on the head.

Females have darker coloured flanks and often a black line running along the back.

Grass snake

Adults 70-100 cm, occasionally some females growing larger.

Body colour ranges from bright green to dark olive, but mostly the latter. Darker specimens can appear black from a distance. Truly black grass snakes are very rare.

Cream, yellow or white collar behind the head, bordered to the rear by black marks.



Most have black bars on the flanks, some also have black spots on the back.





Eggs 2.5 cm long, Laid in clutches of 10-40, usually stuck together. Several females may deposit clutches in the same place (usually in decomposing material such as compost or manure heap).

Hatched egg shells. These are very persistent and may remain up to a year after hatching.



Hatchlings 16-20 cm with similar markings to adults. Appear late August to September.

12 APPENDIX 2 - CONTACTS

In the event of an issue with any protected species on site during any stage of the works please contact the lead Ecologist. If the ecologist is not available, please work your way down the following list:

1. Jenny Butler (Ecologist in charge) – 07391 820315
2. Clare Knight – 07825908531
3. Stephen Wilson - 07766388847

13 APPENDIX 3 – DECLARATION AND SIGN-OFF SHEET

I have read and understood the contents of this method statement.

Name	Company	Date	Signature