PRELIMINARY ECOLOGICAL APPRAISAL (COMPRISING AN EXTENDED PHASE 1 HABITAT & PROTECTED SPECIES SCOPING SURVEY) OF:

LAND FRONTING KENILWORTH ROAD BALSALL COMMON SOLIHULL CV7 7HD

Client: Generator (Balsall Common) Ltd.
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1.0 Introduction

Survey and reporting

1.1 This report details the results of a Preliminary Ecological Appraisal (comprising an Extended Phase 1 Habitat and Protected Species Scoping Survey) of a parcel of land adjacent to Kenilworth Road, Balsall Common, Solihull, CV7 7HD. The survey, carried out on 31 July 2018, was undertaken to inform proposals to develop the site.

Application site

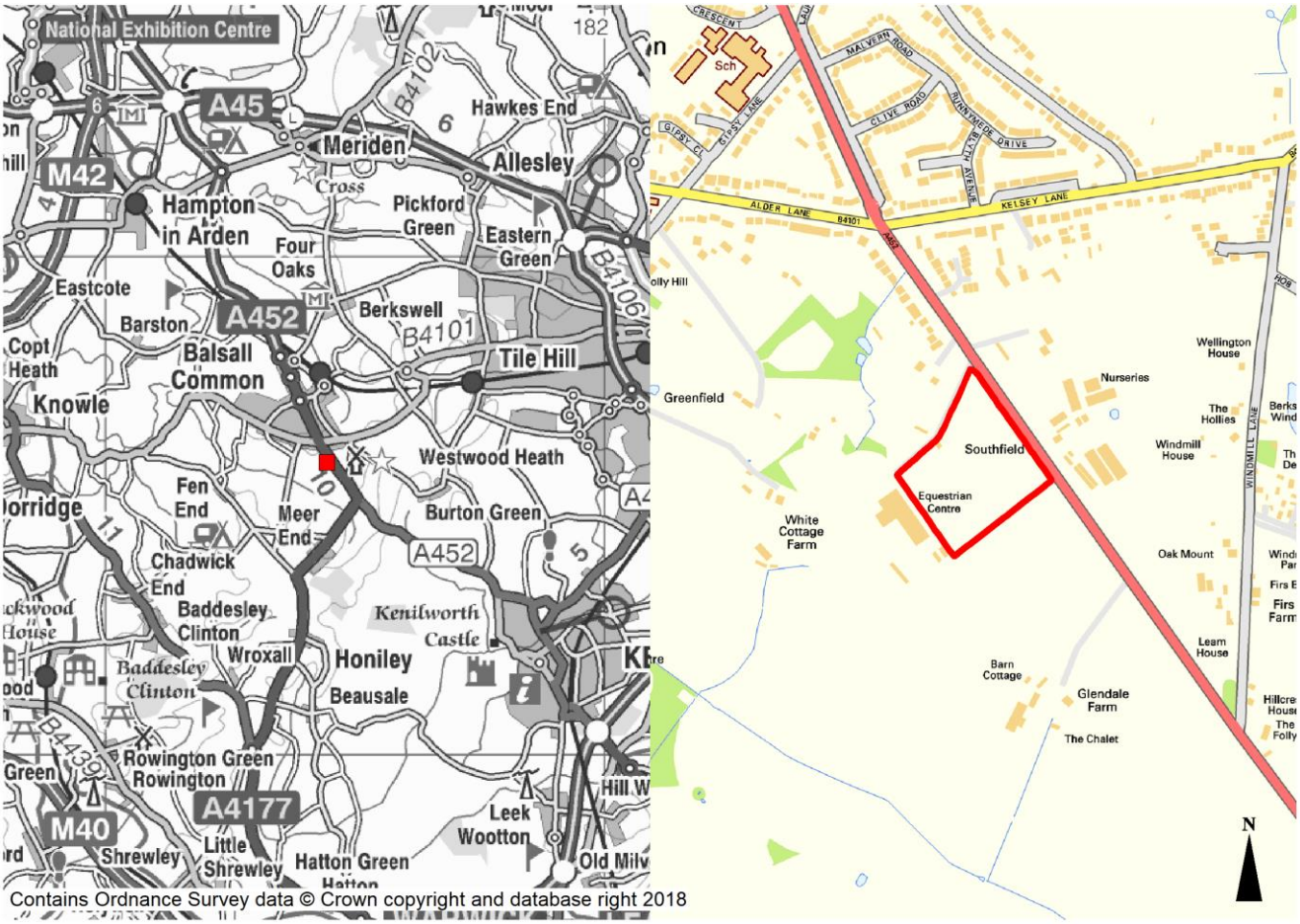
1.2 The application site is located midway along Kenilworth Road (A452), a main road which runs through Balsall Common. (National Grid Reference SP24437586, Figure 1). The application site comprises two improved grassland fields, with a section of the southern field currently being used as a construction site compound for an adjacent development.

1.3 The total area of the application site is approximately 3.6ha.

Details of proposed works

1.4 It is proposed to construct a new residential development across the site. It is to our understanding that the proposals will include the removal of some trees and sections of the hedgerow along the north-eastern boundary to provide access to the site.

Figure 1 – Site location Plan



2.0 Methodology

Desk study

2.1 A desk study data search was undertaken. This involved reviewing publicly available datasets and citations of statutory designated sites of importance for nature conservation, Natural England's Priority Habitat Inventory GIS dataset for England, and Natural England's Ancient Woodland Inventory for sites within the zone of influence of the survey area (considered to be a maximum of 2km in this case). In addition, species records (where readily available) were accessed, and aerial photographs and Ordnance Survey maps were studied for features of interest.

Extended Phase 1 Habitat and Protected Species Scoping Survey

2.2 An Extended Phase 1 Habitat and Protected Species Scoping Survey was undertaken. This comprised a walkover survey of the application site (and adjacent areas where required) and the classification of habitats following the descriptions provided within the Joint Nature Conservancy Council 'Handbook for Phase 1 Habitat Survey' (NCC 1990, JNCC 1993). An assessment of the site in terms of its suitability for notable or protected species was undertaken and any features of note were described.

Surveyor details

2.3 The survey was undertaken by Ryan Davies BSc GradCIEEM of GS Ecology Ltd. Ryan is a member of the Chartered Institute of Ecology and Environmental Management and is an accredited agent under Natural England's great crested newt survey licence (WML-CL08), and, an accredited agent under Natural England WML A34 Level 2 bat survey licence.

2.4 This report has been reviewed by Giles Sutton MSc MCIEEM CEnv of GS Ecology Ltd. Giles holds a Natural England WML A34 Level 2 bat survey licence, a Natural England great crested newt survey licence (WML-CL08) is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and a Chartered Environmentalist with more than 15 years' experience as a professional ecologist.

3.0 Results

Desk study

Statutory and non-statutory sites of importance for nature conservation

3.1 There are no statutory designated nature conservation sites within 2km of the application site.

3.2 There are however several areas of woodland listed on Natural England's Ancient Woodland Inventory within 2km of the site, the nearest of which, Frogmore Wood, is located approximately 1.2km south west.

Protected and notable species records

3.3 Within 2km of the site there are 9 records of licenses issued by Natural England for protected species on The MAGIC website (www.magic.gov.uk), three of which are adjacent to the site. These records are summarised in Table 1 below.

Table 1 – Summary of Natural England licence records

Location (in respect to application site)	Species affected	Breeding site	Year of licence
Adjacent to site (Grid ref: SP24397611)	Great crested newt	No	2015/2016
Adjacent to site (Grid ref: SP24597592)	Great crested newt	No	2015/2016
Adjacent to site (Grid ref: SP24597592)	Brown long-eared bat	No	2015
0.4km East (Grid ref: SP24887610)	Great crested newt	No	2016
0.6km West (Grid ref: SP23697611)	Brown long-eared bat	No	2013
1.1km North	Brown long-eared bat	No	2012
1.2km North-west	Common pipistrelle	No	2014
1.7km South-west	Brown long-eared bat	No	2013
1.9km North-west	Common pipistrelle	No	2011

Ordnance survey maps

3.4 There are five ponds shown on ordnance survey maps within 500m of the application site. The nearest of these is located approximately 140m north east, directly beyond a neighbouring residential development. In addition, there are two other ponds within 250m, both located in woodland approximately 160m to the north west, with the remaining two ponds located 400m away to the east and west (see Figure 2).

Nearby planning applications and ecological surveys

3.5 Directly to the east and north of the site are two areas of residential development. To inform planning applications for these sites ecological surveys were undertaken between 2012 and 2014.

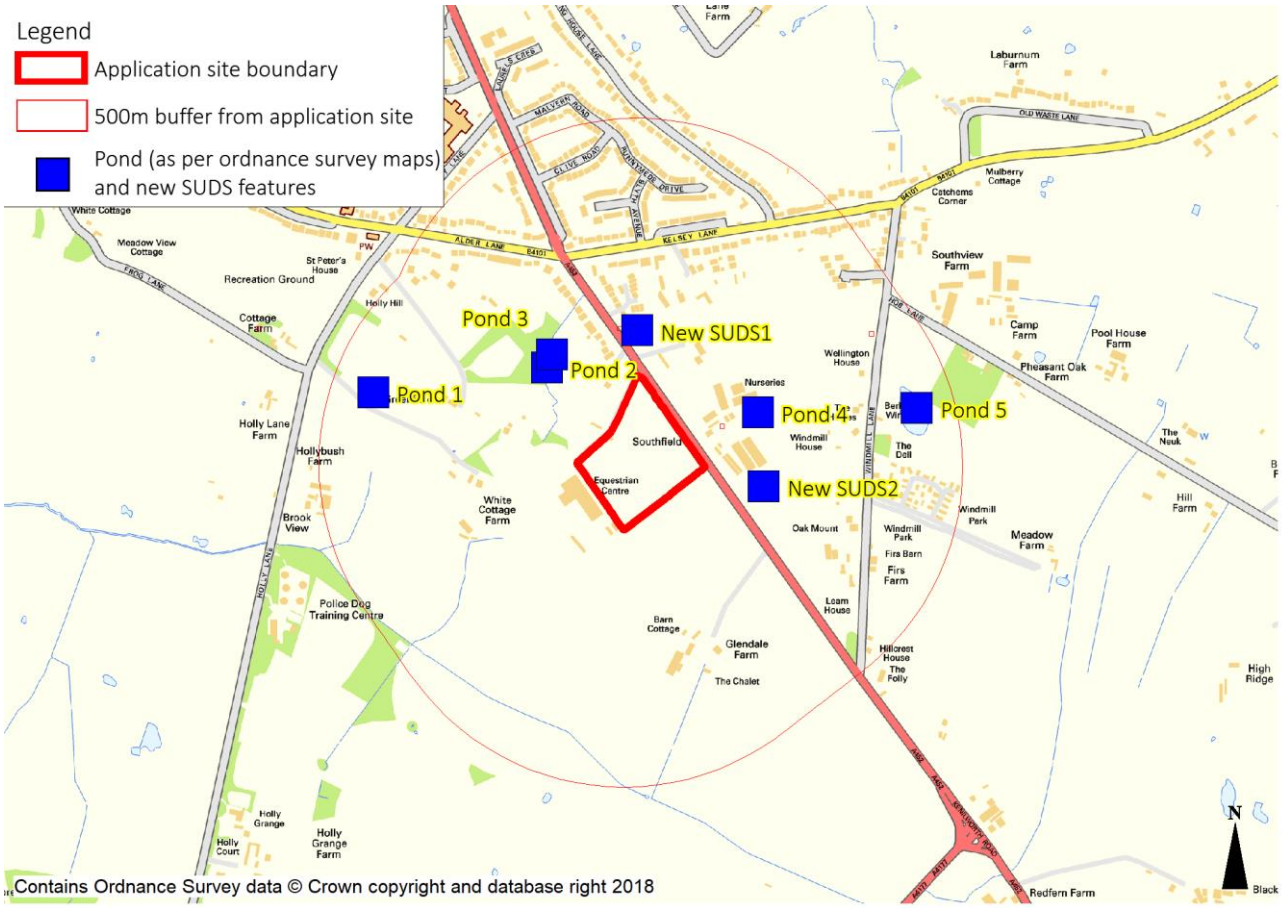
3.6 The surveys found the following (see ecology report submitted with the planning application dated 2014):

- The pond on site, located approximately 140m north east of the application site (pond 4, Figure 2 below), hosts a small population of great crested newts (GCN), with a maximum count of two GCN found during surveys carried out in 2014. The pond was also confirmed as a breeding pond with GCN eggs found during the surveys.

- The woodland ponds, located approximately 160m north west of the application site (ponds 2 and 3, Figure 2 below), were found to not host GCN.
- One of the buildings on site hosted a small brown long-eared day roost (based on the presence of brown long eared droppings in the loft space).

3.7 This development is now near to completion with two new Sustainable Drainage System (SuDS) features (these appear to be ponds) having been installed, which are designed to be of value to GCN. These are located approximately 70m north and 40m south east of the application site ("New SUDS 1" & "New SUDS 2", Figure 2 below).

Figure 2 – Location of ponds and new SUDS features within 500m of the application site



Habitats surrounding the application site

3.8 The application site is located midway along Kenilworth Road (A452), a main road which runs through Balsall Common. Beyond Kenilworth road to the north east is a large-scale residential development, of a similar size to the application site. To the north west are several grassland fields with numerous trees along their boundaries. Further to the north are residential properties and their associated gardens with trees, and, a small block of woodland (approx. 130m north east). To the south west is a care home facility, comprising a large building complex with associated gardens. Directly to the west is a construction site where new units for the care home are to be constructed, with a block of woodland beyond (approx. 150m west). Directly to the south east and further south are large agricultural fields (arable and pasture) with hedgerows and some trees along their boundaries.

Habitats within the application site

3.9 A Phase 1 habitat map and associated target notes are provided in Appendix 1, with photographs provided in Appendix 2. A brief description of each habitat is given below:

- Improved grassland – The majority of the site comprises a pair of horse-grazed, improved grassland fields. The fields are bound by hedges, except along their north-western boundaries and there are some scattered patches of tall ruderal herbs.
- Hedgerows – Along the north-eastern, south-eastern and south-western boundaries, and, running between the two fields, are native hedges. The hedges are defunct in places, e.g. at the north of the site and between the two fields, and, are relatively species rich in places, again, e.g. along the north-eastern boundary. In places the hedgerows have adjacent dry ditches and hedgerow trees.
- Scattered broadleaved trees – Across the site there are numerous scattered broadleaved trees, predominantly within or adjacent to the hedgerows. Several of these trees have potential to host roosting bats, such as the ash tree with a number of holes in towards the north-western boundary – assessed as having "moderate" bat roost potential (see Appendix 4, Table 1), and, an oak and ash tree towards the south-eastern boundary – assessed as having "low" bat roost potential (see Target Notes 5,6 and 11).

  In addition, a number of the trees, primarily along the north-eastern boundary, were covered in dense ivy and of a size that meant it was not possible to rule out the presence of potential bat roost features further up the tree.
- Stable block – Midway along the north-western site boundary is a small, wooden-framed stable block with a pitched roof and corrugated metal cladding. Internally the stable block roof is unlined. The building is unsuitable for use by roosting bats, however, several birds' nests were observed inside the stable block.
- Construction site compound – The western section of the southern field is currently being used as a construction site compound for a neighbouring development. The site compound comprises shipping containers, portacabins, hardstanding parking area, and, a bund likely former when the car park was constructed. The bund comprises a mosaic of improved grassland and tall ruderal herbs.

4.0 Assessment and recommendations (excluding GCN)

Habitats

4.1 The Secretary of State periodically publishes a list of habitats that are of principal importance for the conservation of biodiversity in England under Section 41 (S41) of the 2006 Natural Environment and Rural Communities (NERC) Act. The list currently comprises 56 habitats, referred to as "priority habitats" in the National Planning Policy Framework (NPPF). Paragraph 174 of the NPPF states that: "Plans should […] promote the conservation, restoration and enhancement of priority habitats" and as such where priority habitats are found they should be protected from the adverse impacts of development.

4.2 The native hedgerows along the field boundaries - although defunct in places, and unlikely to fall within the definition of "important" as defined under the Hedgerow Regulations 1997 - are a "priority habitat". It is therefore recommended that these are retained (where practicable), extended and enhanced, by laying and gapping up, as part of the scheme.

4.3 All other habitats within the development site are of limited ecological value, being common, widespread and easily replaceable. None are "priority habitats" and as such there should be no habitat-related constraints to the proposals affecting these habitats.

Nesting birds

4.4 All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended). Section 1 of this Act makes it an offence to kill, injure or take any wild bird, or intentionally to take, damage or destroy the nest of any wild bird while that nest is in use or being built.

4.5 Several birds' nests were observed inside the stable block. In addition, the trees, hedges and areas of dense scrub will be used by nesting birds. As such, demolition and vegetation removal should be undertaken outside of the bird nesting season (April – August inclusive depending on weather conditions). If this is not practicable then areas to be cleared will need to be first checked by a suitably qualified ecologist for nesting birds, and, if any nests are found, works that would disturb the nest must be postponed until all young have fledged the nest and it is no longer in use.

Bats

4.6 All species of bats receive special protection under UK law and it is a criminal offence under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (The Habitat Regulations), deliberately or recklessly to destroy or damage their roosts, or to disturb, kill or injure them without first having obtained the relevant licence for derogation from the regulations from the Statutory Nature Conservation Organisation (the SNCO - Natural England in England).

4.7 A number of trees will be affected by the proposals (it is not known which at this time) some of which have, or are likely to have, features potentially suitable for use by roosting bats, such as the ash tree towards the north-western boundary. It is therefore recommended that once it is known which trees are to be removed, a preliminary bat roost assessment (and if required, a climbing inspection) of these trees is undertaken to determine their bat roost potential.

Other protected species

4.8 It is considered highly unlikely that the proposals will have any adverse impact upon other protected species, such as badgers, dormice or reptiles. This is because:

- The habitats to be affected by the proposals are unsuitable or sub-optimal for use by these species
- In the case of badgers, because no signs of badgers were observed during the site survey.
- In the case of reptiles, all the grassland areas are grazed to a short length and therefore provide limited cover and foraging opportunities (it is however recommended that these areas are maintained as such until works commence to prevent reptiles from colonising these areas).

4.9 As such, there should be no other protected species constraints to the proposals (except GCN, see section 5 below).

Landscaping and ecological enhancements

4.10 Paragraph 109 of the NPPF states that: "The planning system should contribute to and enhance the natural and local environment by […] minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures."

4.11 It is therefore recommended that new planting comprises predominantly native and wildlife-friendly species including the restoration, gapping-up and laying of the native hedges (where these are to be retained).

4.12 It is also recommended that any new fences include gaps at the bases to allow hedgehogs and other mammals to pass through the site (the fragmentation of blocks of land as a result of new housing is thought to be one of the main reasons behind a recent decline in hedgehog numbers), and that ecological enhancements such as bird and bat boxes are provided on and around the new houses.

Biodiversity impact assessment calculator

4.13 In accordance with local planning policy and procedures the local planning authority are likely to want to see the "Habitat Biodiversity Impact Score" and the "Linear Biodiversity Impact Score" calculated. This involves classifying and measuring habitats before, and classifying and measuring habitats, after development and then calculating these scores.

4.14 If the score is negative (i.e. there is a net loss for biodiversity), and there is not room for habitat provision on site or on a nearby off-site parcel of land in then biodiversity credits need to be purchased from Warwickshire Council or a third-party provider.

4.15 Local Authorities in Warwickshire are increasingly asking for the calculator to be undertaken for development proposals and consideration may wish to be given to calculating this score prior to submission of the planning application.

5.0 Assessment and recommendations (GCN)

Legislation

5.1 GCN receive special protection under UK law and it is a criminal offence under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (The Habitat Regulations), to deliberately or recklessly destroy or damage their habitat, or to disturb, kill or injure them without first having obtained the relevant licence for derogation from the regulations from the Statutory Nature Conservation Organisation (the SNCO - Natural England in England).

5.2 In order to obtain such a licence, the SNCO must apply the requirements of Regulation 53 of the Regulations and, in particular, the three tests set out in sub-paragraphs (2)(e), (9)(a) and (9)(b). These are as follows:

(1) Regulation 53(2)(e) states: a licence can be granted for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment".
(2) Regulation 53(9)(a) states: the appropriate authority (the SNCO) shall not grant a licence unless they are satisfied "that there is no satisfactory alternative".
(3) Regulation 53(9)(b) states: the appropriate authority (the SNCO) shall not grant a licence unless they are satisfied "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range."

5.3 Newts are likely to be disturbed by any work that involves altering their breeding ponds (e.g. by introducing fish, deepening or altering its size) or works that involve clearing land up to 500m around ponds and, in such situations, as is the case here, a licence for derogation from the provisions of the habitat regulations needs to be obtained prior to the commencement of any damaging activities.

Ecology

5.4 GCN can grow up to 18cm in size. It is Britain's largest newt. The body has a warty appearance and the skin is normally dark brown or black; the belly is predominantly bright yellow or orange with black markings. During the breeding season, the males develop a crest on their back and tail which they use to attract a mate.

5.5 The species is widely distributed in Britain but is absent from Cornwall, Devon, and parts of Wales and Scotland. It is uncommon but locally abundant. The population has undergone a significant decline in the last 50 years mainly due to the loss of breeding ponds.

5.6 The species can be found in northern Europe and part of West Siberia. The edge of the northern range extends from northern France, Great Britain and southern Scandinavia to the north of Russia, and the southern edge from central France to south-western Romania into central European Russia. Britain is one of the last strongholds for the species.

5.7 GCN spend the majority of their lives on land, within up to 500m of their breeding ponds. The most important terrestrial habitat for GCN is within 100m from a breeding pond, where the majority of the population is likely to be located, foraging, resting, sheltering and hibernating relatively close to their breeding sites. However, a proportion of the population is also likely to forage for food and shelter in suitable habitats up to 250m from a breeding pond and juvenile GCN have been known to disperse up to 500m from their breeding pond in a single season.

5.8 The mainstay of their diet is invertebrates. They return to waterbodies, usually ponds, in the spring to breed. Adults enter the ponds from February onwards with the courtship and egg-laying period being from mid-March to mid-June. Eggs are laid in the folds of debris or the leaves of submerged aquatic plants. A female lays up to 200 eggs per season. Eggs take three weeks to hatch and the larvae take two to three months to develop. Adults begin to leave breeding ponds gradually from late May. However, they can over-winter in ponds and also sometimes return to feed. Young start to emerge from the pond in August and will not normally return until they have reached sexual maturity, two to four years later.

5.9 GCN often exist in metapopulations. A metapopulation is a group of associated populations made up from newts which breed in, and live around, a cluster of ponds which are normally within 250m of each other. There will be some interchange of newts between ponds, even though most adults consistently return to the same pond to breed. Metapopulations are much less vulnerable to habitat changes than populations based on single breeding ponds. For example, the early drying-up of one pond in a cluster of, say, four ponds, will not threaten the breeding success of all animals in the locality. As GCN can be relatively long-lived, populations can survive several years without successful breeding. Ponds will vary in their suitability for egg survival and larval development.

Survey methodologies

5.10 The conventional procedure for establishing the presence or likely absence of GCN is as follows. Surveys are carried out during the newt breeding season (mid-March to mid-June) using three of four different methods: torching, bottle trapping, egg searching and sweep netting. They are undertaken by licensed surveyors and in accordance with Natural England's Great Crested Newt Mitigation Guidelines. Four surveys need to be undertaken in order to confirm presence or likely absence, with at least two of these being carried out between mid-April and mid-May.

5.11 If GCN are found to be present an additional two surveys would normally be undertaken to establish the population size class. [The "population size class" is an estimation of the likely GCN population size based on the maximum number of newts recorded during any one survey visit using torch surveys or bottle trapping. The categories are "low" - a maximum count of 10 animals, "moderate" - a maximum count of between 11 and 100 animals, or "high" - a maximum count of in excess 100 animals.]

Status of the species at the application site and likely impact of the proposals

5.12 Surveys have been undertaken of the nearby ponds to inform the development of the adjacent land parcel (and the associated licence application). These showed that one pond within 500m of the application site hosted GCN in 2014 (Pond 4, Figure 2) with a “low” population recorded. This pond is located 140m north east of the application site. It is also likely that the new SUDS features (when they hold water) are used by GCN. These are located approximately 70 and 40m from the application site.

5.13 It is unlikely that the status of the adjacent pond has changed significantly, and as such GCN are likely to inhabit the application site during their terrestrial life phases and, in the absence of mitigation, development works could harm them.

5.14 This has been confirmed by using Natural England's risk assessment, as detailed in their great crested newt licence method statement template. Application of the risk assessment shows that an offence under the 2017 Habitat Regulations as a result of the proposals is "likely" (see Table 2).

Table 2 – Risk assessment for great crested newts as per Natural England's Great Crested Newt method statement with respect to the confirmed great crested newt breeding pond approximately 140m from the application site.

Component	Likely effect	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	1 - 5 ha lost or damaged	0.4
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
Maximum:		0.4
Rapid risk assessment result:	**AMBER: OFFENCE LIKELY**	

Mitigation

5.15 Since the proposals will result in the loss of great crested newt terrestrial habitat, a mitigation and compensation plan will need to be implemented. It is anticipated that implementation of the mitigation plan will be secured via a planning condition and/or planning obligation (for any off-site elements). The following would form the basis of the mitigation plan:

- An area of land is to be managed as a mitigation area with a sub-section of this area designated as a temporary receptor site. Natural England Guidelines suggest that the area to be enhanced should be similar in size to that being lost (although they rarely insist on this) as such off-site provision may need to be provided.
- The management of the mitigation area is to include the provision of new native shrub planting, areas of wildflower meadow and a new GCN pond. The pond should be as large as practicable, with a minimum size of 5 x 5m, and should be designed to maximise its value for GCN, having a scalloped edge and a long draw down zone and could form part of a SUDS scheme for the site.
- Habitat connectivity will be maintained and enhanced around the site. This can be achieved by retaining and enhancing the hedgerows around the site. The drainage system is to be designed so as not to trap amphibians moving across the site (by, for example, minimising the use of kerbs and gulley pots, and setting the kerb away from drains where they are used - amphibians tend to follow the kerb and fall into and become trapped in gulley pots).
- Measures to ensure that individual GCN are not harmed during construction works to be implemented. This will comprise the erection of amphibian proof fencing around and across the site with pitfall traps placed along the fence, once a licence has been granted by Natural England. Animals will be caught from the pitfall traps and moved to the receptor site. The number of trapping visits will be a minimum of 30 days and trapping ceases once there have been five zero capture days after the 30 day period. Once the translocation is complete, a supervised destructive search of the site will be undertaken to capture any remaining animals. The licenced ecologist or an accredited agent of the licence holder will supervise a large excavator equipped with a toothed bucket that will slowly remove the top layer of vegetation. A fingertip search of habitats will also be undertaken where appropriate. Any newts found during these operations will be carefully captured and released at the receptor site.
- The GCN population will be monitored in the long term, as agreed by Natural England and conditioned under the licence. This will inform management of the receptor site and future mitigation projects.

The licensing process

5.16 A licence for development works affecting great crested newts (i.e. for derogation from the provisions of the Habitat Regulations) needs to be obtained before works which could impact upon great crested newts can commence. This involves submitting a licence application to Natural England with a mitigation plan such as that outlined in this report. Natural England takes 30 working days to process a licence application.

5.17 The licensing process is separate and distinct from the planning system but the Local Planning Authority has statutory obligations under The Habitat Regulations. This means that the Local Planning Authority needs to be satisfied that the proposals are likely to meet the three tests of The Habitat Regulations and that a licence is likely to be obtained from Natural England before they can issue planning permission.

5.18 Warwickshire County Council may soon be piloting a district level licence for GCN mitigation which may negate the need for on-site mitigation. The details of the scheme have not been finalised however a similar scheme in the South Midlands involve registering the site under the scheme and a payment for off-site mitigation.

Consideration of the three tests of The Conservation of Habitats and Species Regulations 2017

5.19 It is considered that, provided a mitigation plan such as that given above is implemented, the proposals would pass the three tests of The Habitat Regulations, and as such receive a licence from Natural England.

5.20 The reasons for this are set out below:

- The development is for an imperative reason of overriding public interest of an economic nature as the development will contribute to a social and economic need of the local community for housing (this is assuming that it is in compliance with other planning policy which is outside the remit of this report) - therefore Regulation 53(2)(e) can be met.
- There is no satisfactory alternative to the development as without carrying out the works the aforementioned need would not be met - therefore Regulation 53(9)(a) can be met.
- Appropriate mitigation can be provided which will ensure that there will not be a detrimental impact on the favourable conservation status of the GCN (see above) - therefore Regulation 53(9)(b) can be met.

Further survey information

5.21 Natural England's GCN Method Statement template state that where a scheme will affect more than 0.5 hectares of land within 250m of a GCN breeding pond survey data should be a maximum of 3 years in age. As such, it may be necessary to update the survey data prior to submission of the licence application.

Planning policy

5.22 Paragraph 99 of the government Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within The Planning System (NB this document has not been revoked by the National Planning Policy Framework) states that:

> "*It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is*

granted, otherwise all relevant material considerations may not have been addressed in making the decision. "

5.23 In this case, there is unlikely to be sufficient detail to inform the planning application and it is recommended that a GCN mitigation plan is drawn up that shows the location of the receptor site and habitat enhancements. This should be submitted with the planning application.

6.0 Summary

6.1 The land fronting Kenilworth Road comprises two improved grassland fields, with a section of the southern field currently being used as a construction site compound for an adjacent development.

6.2 The habitats on site, with the exception of the hedgerow along the field boundaries, are of limited ecological value being common, widespread and easily replaceable. It is recommended that where practicable the hedgerows are retained, extended and enhanced, by laying and gapping up.

6.3 A pond 140m north east of the application site hosted great crested newts in 2014. As such it is likely that they inhabit the site during their terrestrial life stages and will be harmed by the works. Works will therefore need to be undertaken under licence to Natural England and it is recommended that a mitigation plan is drawn up to inform the planning application.

6.4 A number of trees will be affected by the proposals (it is not known which at this time) some of which have, or are likely to have, features potentially suitable for use by roosting bats, such as the ash tree towards the north-western boundary. It is therefore recommended that once it is known which trees are to be removed, a preliminary bat roost assessment (and if required, a climbing inspection) of these trees is undertaken to determine their bat roost potential.

6.5 Any vegetation clearance or demolition will need to occur outside of the bird nesting season, or areas to be cleared will first need to be checked for nesting birds. It is also recommended that all grassland areas remain cut or grazed short to reduce the likelihood of reptiles using the site.

6.6 It is recommended that new planting comprises predominantly native and wildlife-friendly species including the restoration and augmentation of the hedges along the boundaries of the site. It is also recommended that any new fences include gaps at the bases to allow hedgehogs and other mammals to pass through the site and that ecological enhancements such as bird and bat boxes are provided on and around the new houses.

6.7 Local Authorities in Warwickshire are increasingly asking for a Biodiversity Impact Assessment calculator to be undertaken for development proposals. Consideration may wish to be given to calculating this score prior to submission of the planning application

Appendix 1 - Extended Phase 1 Habitat Map and Target Notes

Target notes

1. Two horse-grazed, improved grassland fields with several areas of tall ruderal herb, dominated by creeping thistle (*Cirsium arvense*) and nettle (*Urtica dioica*). Species include: ribwort plantain (*Plantago lanceolata*), curled dock (*Rumex crispus*), broad-leaved dock (*Rumex obtusifolius*), meadow buttercup (*Ranunculus acris*), dandelion (*Taraxacum*), cow parsley (*Anthriscus sylvestris*), Yorkshire fog (*Holcus lanatus*), white clover (*Trifolium repens*), smooth meadow grass (*Poa pratensis*) and greater plantain (*Plantago major*).
2. Small area of bramble scrub (*Rubus fruticosus*) at northern end of site. Beyond is a semi-dead oak tree (*Quercus robur*) covered with ivy.
3. North-eastern boundary, comprises a relatively species rich hedge, which is defunct at its northern end and intact to the south. Above the hedge are numerous broadleaved trees and below is a dry ditch. Hedge species include: hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), bramble, dog rose (*Rosa canina*), apple (*Malus domestica*) and gorse (*Ulex europaeus*). Tree species include: oak, ash (*Fraxinus excelsior*) and willow (*Salix fragilis*).
4. South-eastern boundary hedgerow, continuing to south-western boundary, comprises a intact hedge dominated by hawthorn with bramble, and elm (*Ulmus minor*) with several oak and ash above.
5. Multi-stemmed ash tree, maximum diameter at breast height (DBH) of 45cm, wound approx. 1m above ground level with hole above potentially suitable for use by roosting bats. Assessed as having “low” bat roost potential.
6. Oak tree in poor health and in decline. DBH approx. 70cm, hole in stem at 1m above ground level leading into cavity, however partially overgrown by brambles. Assessed as having “low” bat roost potential
7. Bund adjacent to construction site compound, comprises a mosaic of improved grassland and tall ruderal herbs.
8. Construction site compound. Comprises shipping containers and porta-cabins, hardstanding car park and a section of improved grassland used for material storage. Beyond Heras fencing to the south west are several poplar trees (*Populus sp.*) along site boundary.
9. A partially defunct hedge running between the two fields, with a dry ditch below, dominated by hawthorn with frequent apple.
10. Wooden framed stable block with a pitched roof, clad with corrugated metal. Internally unlined, several birds’ nests (house martin and wren) observed inside, building is unsuitable for use by roosting bats.
11. Ash tree with a number of potential bat roost features, including hole at head height leading up into stem and several woodpecker holes higher up, assessed as having “moderate” potential to host roosting bats.


Key
Application site boundary
Target Note
Improved grassland
Buildings
Tall ruderal herbs
Hardstanding
Dense continuous scrub
Fence
Intact hedge
Defunct hedge
Scattered broadleaved trees
1
2
3
4
5
6
7
8
9
10
11
I
N
25 0 25 50 75 100
Meters
BosqMap
Produced using BosqMap Software
www.bosqmap.co.uk
ECO2209
Land fronting
Kenilworth Road
Results of Extended
Phase 1 Habitat Survey
REV 01
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Appendix 2 – Site Photographs

Photo 1 – The northern field viewed from the north west, and, Photo 2 – The southern field viewed from the south

Photos 3 and 4 – Hedgerows across the north-eastern boundary, and, centre of the site

Photos 5 and 6 – Ash tree with a number of features including a hole in the stem which leads upwards into a cavity

Photos 7 and 8 – The corrugated metal-clad stable block, with several birds nests inside

Photo 9 – the construction site compound at the west of the site, viewed from the south-east

Appendix 3 – Legislation and planning policy

Planning Authorities have a legal duty to consider biodiversity when assessing planning applications. Where there is a reasonable likelihood that a planning application might affect important protected sites, species or habitats, information on the species, habitat or site likely to be affected, together with an assessment of the impacts of the proposals, will almost certainly be required.

The legal duty for Planning Authorities to have regard to the conservation of biodiversity was introduced in the 2006 Natural Environment and Rural Communities Act (The NERC Act). This act clarified existing commitments with regard to biodiversity, raised the profile of biodiversity and aimed to make the consideration of biodiversity a natural and integral part of policy and decision making.

In addition to the NERC Act there is also national and international biodiversity legislation. This includes legislation in relation to protected species and sites which operates outside of the planning system. Local Authorities and developers have a duty to comply with this legislation.

National planning policy

Paragraph 99 of the Government Circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System (this document has not been revoked by the recently published National Planning Policy Framework) states that:

'It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.'

As such, in line with national planning policy, most planning authorities will ask for this information to be provided before a planning decision is made and in many cases before it is registered.

Local planning policy

In addition to national planning policy, most councils have planning policies to protect biodiversity, and to enhance it where practicable within and adjacent to development sites.

European protected species

The United Kingdom hosts a number of European Protected Species (EPS) of animals (table 1) and plants (table 2). These species receive special protection under UK law and it is an offence under the Wildlife and Countryside Act 1981 (as amended) and the European Habitats and Species Directive (92/43/EC), enacted in the UK through The Conservation of Habitats and Species Regulations 2017, to deliberately or recklessly destroy or damage their habitat, or to disturb, kill or injure the species without first having obtained the relevant licence from Natural England.

Planning Authorities have a statutory duty under these regulations to have regard to the requirements of the Habitats Directive and need to be satisfied that the development is likely to receive a licence from Natural England, and therefore comply with the Habitats Directive, before granting planning permission.

Table 1 – European Protected Species of Animal found in the UK

Common name	Scientific name
Bats, Horseshoe (all species)	*Rhinolophidae*
Bats, Typical (all species)	*Vespertilionidae*
Butterfly, Large Blue	*Maculinea arion*
Cat, Wild	*Felis silvestris*
Dolphins, porpoises and whales (all species)	*Cetacea*
Dormouse	*Muscardinus avellanarius*
Frog, Pool	*Rana lessonae*
Lizard, Sand	*Lacerta agilis*
Moth, Fisher's Estuarine	*Gortyna borelii lunata*
Newt, Great Crested (or Warty)	*Triturus cristatus*
Otter, Common	*Lutra lutra*
Snail, Lesser Whirlpool Ram's-horn	*Anisus vorticulus*
Snake, Smooth	*Coronella austriaca*
Sturgeon	*Acipenser sturio*
Toad, Natterjack	*Bufo calamita*
Turtles, Marine	*Caretta caretta*
	Chelonia mydas
	Lepidochelys kempii
	Eretmochelys imbricata
	Dermochelys coriacea

Table 2 – European Protected Species of Plant found in the UK

Common name	Scientific name
Dock, Shore	*Rumex rupestris*
Fern, Killarney	*Trichomanes speciosum*
Gentian, Early	*Gentianella anglica*
Lady's-slipper	*Cypripedium calceolus*
Marshwort, Creeping	*Apium repens*
Naiad, Slender	*Najas flexilis*
Orchid, Fen	*Liparis loeselii*
Plantain, Floating-leaved water	*Luronium natans*
Saxifrage, Yellow Marsh	*Saxifraga hirculus*

Nationally protected species

Many species of animal are protected under the 1981 Wildlife and Countryside Act (as amended). 'Full protection' applies to EPS and some non EPS species such as the water vole. This prohibits the intentional killing, injuring or taking (capture. etc); possession; intentional disturbance whilst occupying a 'place used for shelter or protection' and destruction of these places; sale, barter, exchange, transporting for sale and advertising to sell or to buy. Many species, such as common species of reptile and amphibian, are protected from intentional killing and injuring and trading.

Birds

All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended), whilst they are actively nesting or roosting. Section 1 of this Act makes it an offence to kill, injure or take any wild bird, and to intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built. It is also an offence to take or destroy any wild bird eggs.

In addition, bird species listed under Schedule 1 of the Act receive extra protection. The Act states that 'it is an offence to intentionally or recklessly disturb any wild bird listed in Schedule 1 while it is nest building, or at (or near) a nest containing eggs or young, or disturb the dependent young of such a bird'.

In practice this means that in areas where birds are likely to be nesting works should not be undertaken during the nesting season, which is generally considered to be March to September, although this very much depends on weather conditions, habitats and the species involved. If works cannot be avoided then areas should first be checked for nesting birds. Habitats likely to host nesting birds include trees, hedgerows and dense scrub, buildings, reedbeds and riverine habitats and open areas with tussocky vegetation.

Appendix 4 - Bat ecology and conservation status

Background

Bats are the only true flying mammals and belong to their own taxonomic group, the *Chiroptera*. Worldwide there are almost 1,000 species, with 16 in the UK. All species in the UK are insectivorous. They have a highly sophisticated echolocation system that allows them to avoid obstacles and catch invertebrates, either in flight or by picking them off water, the ground or foliage.

Bat species in the UK

There are 16 species of bat that are known to exist in the UK mainland, with a further two - the greater mouse eared bat *Myotis myotis*, and the parti-coloured bat *Vespertilio murinus* - that are thought to occur as rare migrants or to have small populations in the UK. Bats in the UK belong to one of two taxonomic families, the Rhinolophidae (horseshoe bats) and the Vespertilionidae (all other UK bats).

Bat Conservation Status

Bat populations have undergone a significant decline in the past sixty years. For example, estimates from the National Bat Colony Survey suggest that the UK pipistrelle population (one of our commonest bat species), declined by approximately 70% between 1978 and 1993. Factors contributing to this decline include:

- Loss of, and damage to, roosting sites, including buildings, trees, and underground structures (mines, tunnels, ice-houses, cellars, etc).
- Loss and fragmentation of suitable insect-rich feeding habitats such as wetlands and deciduous woodland.
- Reduction in the abundance and diversity of insect prey due to intensive agriculture, particularly over-grazing and the use of pesticides.
- Loss of linear features such as tree-lines and hedgerows, depriving bats of commuting routes between roosts and feeding areas.
- Loss of winter roosting sites in buildings and old trees.
- Disturbance and destruction of roosts, including the loss of maternity roosts due to the use of toxic timber treatment chemicals.

Roosts

Bats use a variety of roosts of different types including trees, buildings, caves, mines and other structures. Most species are colonial and roost in groups. This can make populations particularly vulnerable to loss of roosts as the loss of a single roost may affect the whole population. Some species hang in obvious locations, such as the timbers near to the apex of a roof, others roost in cracks and crevices, such as the gaps under tiles, and as such can be very difficult to locate.

During the winter (November to February), when there is a reduction in insect numbers, bats hibernate to conserve energy. They prefer sites with a constant low temperature and a high relative humidity. On mild winter's nights, bats may wake up and feed. However, bats are particularly vulnerable to disturbance at this time of year, as flying in winter uses up large quantities of energy that cannot easily be replaced.

In the spring, after emerging from hibernation, bats often move from site to site and may congregate in small groups. Female bats gather together in the summer (approximately May to August dependant on species) in maternity roosts. Once the young have stopped suckling, and the baby is independent, bats tend to disperse and use other roosts. Maternity roosts are particularly vulnerable to disturbance, as bats may have come from a wide geographical area, and have a strong tradition of returning to the same roost year after year.

During the late summer and early autumn males occupy mating roosts which are visited by several females. After mating some species gather together at swarming sites to fatten up prior to hibernation.

Habitat associations

In addition to roosts, bats also need foraging habitats to find suitable food resources, and commuting routes to get to these areas. As would be expected, the highest numbers of bats are found in areas with abundant invertebrates. Some species specialise in catching small invertebrates in flight, whilst others specialise in catching larger invertebrates such as moths and beetles. The distances that bats travel to foraging areas varies between species; records have shown some greater horseshoe bats travel up to 22km to forage, although many species will typically feed within 1km of a roost.

Bats, especially the smaller species, tend to follow linear features (such as hedgerows and tree lines) to their foraging habitats and will often not cross open spaces. A gap of 10m in a linear feature will often not be crossed by bats, and it is important that developments do not create such gaps if linear features are used by bats.

Classification of buildings and trees

Buildings and trees are classified according to their suitability for use by roosting bats. The classification is dependent on a number of factors including:

- Bats and/or signs of bats
- External and internal features potentially suitable for use by roosting bats (e.g. raised or missing tiles, gaps behind fascia boards, rot holes in trees etc.)
- Setting
- Night time light levels
- Disturbance levels
- Proximity of suitable foraging habitat and commuting routes (e.g. ponds, streams, woodland, large gardens, hedgerows)

The categories used to classify buildings and trees and the survey effort required to determine the presence or absence of bats (as per the Bat Conservation Trust's Bat Survey Guidelines[1], referred to by Natural England in their standing advice to planning officers) are described in Table 1, and factors affecting habitat suitability in Table 2.

[1] Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) Bat Conservation Trust

Table 1 – Description of the categories used to assess a building or tree's bat roost potential and the survey effort required to determine the likely presence or absence of bats

	Roost status	Description	Survey effort required to determine the likely presence or absence of bats
Bat Roost Potential	Confirmed	Bats or evidence of bats found.	Surveys would be required to establish the status of the roost. Generally three dusk emergence and/or pre-dawn re-entry surveys between May and September. Optimum period May – August (two surveys should be undertaken during the optimal period and at least one survey should be a pre-dawn survey).
	High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Three dusk emergence and/or pre-dawn re-entry surveys between May and September. Optimum period May – August. Two surveys should be undertaken during the optimal period and at least one survey should be a pre-dawn survey.
	Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but are unlikely to support a roost of high conservation status (with respect to roost type only i.e. irrespective of species conservation status, which is established after presence is confirmed).	Two surveys, comprising one dusk emergence and a separate pre-dawn re-entry survey, between May and September
	Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation) A tree of sufficient size and age to contain features but with none seen from the ground or features seen with only very limited roosting potential	One dusk emergence or pre-dawn re-entry survey between May and September (but only if features will be affected by the proposals). May not be required for trees with low roost suitability (dependant on case-specific conditions)
	Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further surveys required.

Table 2 – Habitat suitability scale for commuting and foraging bats

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

Appendix 5 - About GS Ecology

Established in 2009, GS Ecology is an independent ecological consultancy in Berkshire. We carry-out surveys and ecological consultancy services for public and private sector clients including in Berkshire, Oxfordshire and Hampshire, London and the south of England. We can advise you on cost effective sustainable solutions for your project, whether it be a bat survey to inform a planning application, the ecology chapter of an Environmental Statement or a Woodland Management Plan.

Our work is undertaken by experienced and qualified ecologists, who are members of the Chartered Institute of Ecology and Environmental Managers. Our services include:

- Ecology surveying and reporting to inform planning applications, e.g.
  - Preliminary Ecological Appraisal
  - Extended Phase 1 Habitat Survey
  - Protected species surveys, e.g. badgers, dormouse, great crested newts
  - Bat surveys in Oxfordshire, Berkshire, Hampshire, London and Southern England
- Code for sustainable homes or BREEAM ecology assessments – to demonstrate the sustainability of a new building
- Protected species licensing such as bat and great crested newt licences for development sites after planning permission has been obtained
- Providing advice to land managers and writing ecological management plans, such as woodland management plans and farm environmental plans for England woodland Grant Scheme and Environmental Stewardship applications
- Providing ecology advice to Local Authorities and Local Planning Authorities