



Extended Phase 1 Habitat Survey for:

**Proposed Mineral Allocation Site on Land off
Pincet Lane, North Kilworth, Leicestershire**

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SUMMARY

The Extended Phase 1 Habitat Survey detailed in this report was commissioned by Mick George Ltd to provide evidence to support the allocation of land off Pincet Lane, North Kilworth ('**the Site**') into the emerging Leicestershire County Council Minerals and Waste Plan. A Preliminary Bat Roost Assessment of trees and buildings at the Site was carried out, and 30m outside of the Site boundary was also checked specifically for Badger setts.

The Extended Phase 1 Habitat Survey identified that the habitats at the Site were of **low to (potentially) high ecological value**.

Arable fields are the dominant habitat at the Site. Other habitats present include:

- Buildings;
- Disturbed Ground - Short Ephemeral/Perennial;
- Hedge with Trees (species rich);
- Hedge with Trees (species poor);
- Poor Semi-Improved Grassland;
- Scattered Trees;
- Semi-Improved Neutral Grassland;
- Semi-Natural Broadleaved Woodland; and
- Tall Ruderal.

The table below outlines the results of the survey, potential impacts, and any recommendations.

Cont'd...

Table 1 Summary Table of Survey Results and Recommendations

Protected Species	Survey Results	Potential Implications of Impact	Recommendation
Bats	Several Category 1*/1/2 trees which are suitable for roosting bats are present within hedgerows at the Site. The Site has low suitability for foraging bats.	Destruction of a bat roost – Potential breach of the law. Disturbance of/injury to/killing of bats – Potential breach of the law	Bat activity (transect) surveys should be carried out at the Site with further focussed surveys carried out if bat roosts are present.
Breeding Birds	The Woodland, Hedgerows and Scattered Trees at the Site are suitable for nesting birds. The Semi-Improved Neutral Grassland and Poor Semi-Improved Grassland are suitable for ground nesting birds.	Loss of habitat - Negligible negative effect. Direct loss of active nests - Potential breach of the law.	Time vegetation removal outside of the Bird Breeding Season (Generally, March-September). If vegetation removal is carried out during breeding bird season advise that ecologist checks for active nests beforehand.
Badgers	One latrine was found at the Site. No evidence of Badger setts at or within 30m of the Site was found.	Loss of suitable foraging habitat – negligible negative effect.	No further surveys required.
Great Crested Newt	Terrestrial habitats are of limited to moderate suitability. No suitable aquatic habitat is present at the Site. One pond within 500m of the Site has moderate suitability for Great Crested Newts.	Retention of terrestrial habitats of moderate suitability – no important effect. Loss of terrestrial habitat of limited suitability – No important effect.	Precautionary working methods should be put in place prior to commencement of the Proposed Development.
Reptiles	The habitats at the Site are of low suitability for reptiles.	No important effect.	No further surveys required for reptiles.
Invertebrates	No suitable aquatic habitat at the Site. Terrestrial habitats of low to moderate suitability are present at the Site.	Loss of terrestrial habitat of low suitability – Negligible negative effect. Retention of terrestrial habitat of moderate suitability – No important effect.	No further surveys required for invertebrates.

1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1 Crestwood Environmental Ltd. has been appointed by Mick George Ltd. (**‘the Client’**) to provide an Extended Phase 1 Habitat Survey in relation to a proposed sand and gravel quarry (**‘the Proposed Development’**) as a site allocation within the emerging Leicestershire County Council Minerals and Waste Plan. The Site is located on land off the Pincet Lane, North Kilworth, Leicestershire (**‘The Site’**) (NGR: SP 62623 86287) and the survey was led by Matthew Wall GradCIEEM (**‘the Ecologist’**) of Crestwood Environmental Ltd.

1.2 PURPOSE AND SCOPE

- 1.2.1 The purpose of the survey, assessment and report is to provide ecological advice in respect of the design, construction and eventual restoration of the Proposed Development.
- 1.2.2 The scope of the survey is to record the presence and extent of habitats and the likelihood of protected species being present within the Site and any adjacent areas which could potentially be affected. Incidental observations were also made on the suitability of trees at the Site for bats, and the Site and within 30m of the Site boundary was also checked for the presence of Badgers.
- 1.2.3 The description of the Site and the results of the survey relate to the findings at the time of the field survey only, Wednesday 5th August 2015.

1.3 THE SITE

- 1.3.1 The Site is located off Pincet Lane, Lutterworth, Leicestershire. The habitats at the Site comprise of Arable fields, Hedgerows (inc. Hedge with Trees), Disturbed Ground – Ephemeral/Short Perennial, Poor Semi-Improved Grassland, Semi-Improved Neutral Grassland, Buildings and Semi-Natural Broadleaved Woodland, Scattered Trees and Tall Ruderal vegetation.
- 1.3.2 The red line shown on Drawing Number CE-NK-0945-DW01 (Appendix E1) indicates the extent of the Site.
- 1.3.3 The Site’s boundary relates to plans of the Proposed Development provided by Mick George Ltd at the time of the survey. Any subsequent amendments to the boundary may alter recommendations made in this report.
- 1.3.4 In the local area the main habitat wildlife corridors present are tributaries of the River Avon and field boundary hedgerows. Fragmented areas of woodland within the local area and scattered trees may act as ecological “stepping stones” to provide some connectivity within the wider landscape.

2 METHODOLOGY AND APPROACH

2.1 DESK STUDY

- 2.1.1 Prior to the field survey visit, a desktop data-gathering exercise was undertaken using available online resources as well as information from the local biological records centre.

- 2.1.2 The National Biodiversity Network website (NBN, 2015) was searched for records of protected species within 2km of the Site. The only exception to this search radius was with regard to bats, for which records within 5km of the Site were obtained as per the recommendations within the Good Practice Guidelines (2nd Edition) (Hundt, 2012). Protected species which were searched for on the NBN Gateway included:
- Animal species listed on Schedule 2 of The Conservation of Habitats and Species Regulations 2010;
 - Animal species listed on Schedule 5 of the Wildlife and Countryside Act 1981 (excluding invertebrate species and marine species – record of which are provided the local biological records centre);
 - Plant species listed on Schedule 5 of the Conservation of Habitats and Species Regulations 2010;
 - Highly invasive plant and animal species listed on Schedule 9 of the Wildlife and Countryside Act 1981; and
 - The MAGIC website (DEFRA, 2015) was also used to determine whether any statutory sites and notable habitats were present within 2km of the Site.
- 2.1.3 Biological records are yet to be obtained from the Leicestershire and Rutland Environmental Records Centre ('**LRERC**') and Northamptonshire Biological Records Centre ('**NBRC**').

2.2 FIELD SURVEY

Extended Phase 1 Habitat Survey

- 2.2.1 The method used for the Extended Phase 1 Habitat Survey is based on guidelines provided by JNCC (JNCC, 2010) and CIEEM (CIEEM, 2013). During the survey visit, any vegetation types or signs of protected species or fauna were recorded and mapped using specific standard mapping colours, where possible.

Tree Assessment for Roosting Bats

- 2.2.2 The survey included a survey of mature trees at the Site from ground level, recording any evidence of bat roosts, droppings, staining, scratch marks and feeding remains, or any potential roost sites within the trees themselves in accordance with Natural England's Bat Mitigation Guidelines (Natural England, 2004) and the Bat Survey Good Practice Guidelines 2nd Edition (Hundt, 2012).

Badger Survey

- 2.2.3 A survey for Badger was carried out following recognised guidance (Harris et al, 1989). All potential habitats within the Site, plus 30m outside of the Site boundary, were surveyed for evidence of badger activity, and specifically for the presence of setts. Field signs searched for included active or inactive setts, badger pathways, latrines, hair, discolouring of and damage to fencing, signs of foraging and feeding remains.

2.3 IMPACTS AND EFFECTS METHOD OF ASSESSMENT

2.3.1 The impacts and effects identified in sections 5 and 6 respectively take into account the following impact types in line with relevant guidance (CIEEM, 2013), (IEEM, 2006):

- Positive/Negative;
- Direct/Indirect;
- Cumulative; and
- Temporary/Permanent.

2.4 LIMITATIONS

2.4.1 Other applications or non-implemented consents within the local area have not been considered, and therefore the assessment of impacts and effects pertains solely to those associated with the Proposed Development and not cumulative effects arising from impacts arising from other developments in the local area.

2.4.2 Not all ponds within 500m of the Site could be accessed as they were located on private land and some areas within 30m were also not accessible.

3 RESULTS

3.1 DESK STUDY RESULTS

Planning Policy

National Planning Policy Context

3.1.1 National Planning Policy Framework (NPPF) Section 11 - Conserving and enhancing the Natural Environment, contains relevant policy in Paragraphs 109-125.

3.1.2 The Government's objective, as stated in the NPPF is that planning should help to deliver a healthy natural environment for the benefit of everyone and safe places which promote wellbeing. To achieve this objective, the NPPF states that the planning system should aim to conserve and enhance the natural and local environment by protecting valued landscapes, minimise impacts on biodiversity and provide net gains where possible. The NPPF also makes the statement that planning permission should be refused if significant harm resulting from a development cannot be avoided, adequately mitigated, or as a last resort, compensated for.

3.1.3 The NPPF goes on to support the Lawton Review and the White Paper with its goals to minimise impacts on biodiversity by stating that planning policy should take into account the need to plan for biodiversity at a landscape-scale as well as identify and map components of the local ecological networks, including international, national and local sites. In line with EU targets, the NPPF states that planning will promote the preservation, restoration and re-creation of priority habitats, ecological networks and the recovery of priority species populations.

Protected Species

- 3.1.4 The initial desk study found records of bats within 5km of the Site, and other protected species within 2km of the Site.
- 3.1.5 The NBN Gateway provided records of bats within 5km of the Site; these were: Daubenton's Bat (*Myotis daubentonii*), Leisler's Bat (*Nyctalus leisleri*), Noctule Bat (*Nyctalus noctula*), Common Pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*).
- 3.1.6 In addition to the Bat records, the NBN Gateway (NBN, 2015) also provided records of Badgers within 2km of the Site.
- 3.1.7 In addition to the NBN Gateway records, the LRERC provided one Great Crested Newt record from 1992, as well as several records of Badger setts to the east of Pincet Lane (within 30m of the Site) and one Slow Worm (*Anguis fragilis*) record approximately 495m south of the Site.
- 3.1.8 The NBRC are yet to provide biological records of protected species within the area and it may be the case that there may be additional records of protected species in the area following receipt of the biological records which could affect recommendations made within this report.

Statutory Wildlife Sites

- 3.1.9 The initial desk study and search of the MAGIC website has indicated that there are no statutory wildlife sites within 2km of the Site; however records from the NBRC may provide additional information on statutory wildlife sites in the area.

Non-Statutory Wildlife Sites

- 3.1.10 Records from LRERC have indicated that there are several non-statutory wildlife sites within 2km of the Site (Local Wildlife Sites and parish/district/county sites), as well as potential wildlife sites within the Site in the form of the species-rich hedgerows. Full details of non-statutory sites provided by LRERC can be found in Appendix E2.

3.2 FIELD SURVEY RESULTS

- 3.2.1 The weather conditions at the time of survey are shown in Table 2.

Table 2 Weather Conditions during the Survey (Date)

Parameter	Recorded Figure
Temperature (°C)	21.0
Cloud Cover (in Octas)	1
Precipitation	None
Wind Speed (Beaufort Scale)	Light Breeze (2)

General Description of Habitats within the Site

- 3.2.2 The habitat types identified at the Site, as listed below, relate to the guideline habitats listed within the Handbook for Phase 1 Habitat Survey (JNCC, 2010). These habitats are recorded on Drawing No. CE-NK-0945-DW01 (see Appendix E1) and are described in more detail below.

3.3 HABITATS AND FLORA

- 3.3.1 The Site comprises the following habitat and vegetation types:

- Arable;
- Buildings;
- Disturbed Ground - Short Ephemeral/Perennial;
- Hedge with Trees (species rich);
- Hedge with Trees (species poor);
- Poor Semi-Improved Grassland;
- Scattered Trees;
- Semi-Improved Neutral Grassland;
- Semi-Natural Broadleaved Woodland; and
- Tall Ruderal.

Arable

- 3.3.2 Arable (see Plate 1) is the dominant habitat at the Site and can be found in both the Northern and Southern Site Areas. The dominant species within this habitat is Wheat (*Triticum* spp.) which has been planted as a crop.

Plate 1 Arable



Buildings

- 3.3.3 Several Buildings are present within the Site and although they are present within the Site boundary, they are not included within the boundary of the Proposed Development itself.
- 3.3.4 The Buildings are located along the eastern boundary of the Southern Site Area and comprise a residential property (the southernmost property – see Plate 2) which is currently occupied as well as a group of abandoned residential and agricultural buildings to the north of the residential property which comprise a farm building as well as outhouses and a large storage shed (see Plate 3 to Plate 5).

Plate 2 Residential Property



Plate 3 Abandoned Residential Building



Plate 4 Abandoned Agricultural Building



Plate 5 Abandoned Agricultural Building



Disturbed Ground – Ephemeral/Short Perennial

- 3.3.5 A small area of Disturbed Ground with ephemeral/short perennial vegetation is present at the land immediately surrounding the agricultural Buildings in the Southern Site Area (see Plate 6).
- 3.3.6 The species present within this habitat are Broad Leaved Dock (*Rumex obtusifolius*), Mullein (*Verbascum thapsus*), Herb Robert (*Geranium robertanum*), Pineapple Weed (*Matricaria discoidea*), Creeping Thistle (*Cirsium arvense*), Yorkshire Fog (*Holcus lanatus*), Cat's Ear (*Hypochaeris radicata*), Prickly Sow Thistle (*Sonchus asper*) and Rosebay Willowherb (*Chamerion angustifolium*).

Plate 6 Disturbed Ground – Ephemeral/Short Perennial



Hedge with Trees (species rich)

- 3.3.7 Several species rich Hedges with Trees are present at the Site (see Plate 7) and are mostly located on the peripheries of the Site (see CE-NK-0945-DW01). The hedges are approximately 1.5-3m tall and are mostly very dense with several trees present along the lengths.
- 3.3.8 The dominant species within this habitat are Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*), other species present within the Hedges include Ash (*Fraxinus excelsior*), Field Maple (*Acer campestre*), Elder (*Sambucus nigra*), Guelder Rose (*Viburnum opulus*), English Elm (*Ulmus minor* 'Atinia'), and Bramble (*Rubus fruticosus*).
- 3.3.9 The ground flora of the Hedges is not particularly diverse and is dominated by Bramble, Cleavers (*Galium aparine*) and Common Nettle (*Urtica dioica*).

Plate 7 Hedge with Trees (species rich)



Hedge with Trees (species poor)

- 3.3.10 Several Hedgerows at the Site are species poor Hedges with Trees (see Plate 8) which act as Arable field boundaries. The dominant species in the Hedges are generally Hawthorn and Blackthorn, though Field Maple, Elder and Ash are frequently found. The hedges are generally very dense and stock-proof in the majority of areas with only some small gaps being present – usually immediately adjacent to trees or as access points between fields.
- 3.3.11 Few of the hedges are taller than c.1.5-2m in height and the majority of hedges at the Site are very dense (c.1m width). The trees within the Hedge are mature trees mostly comprising Ash or Common Oak (*Quercus robur*) species.
- 3.3.12 The ground flora of the Hedges is typically poor in species diversity with Cleavers and Common Nettle being dominant with Hogweed (*Heracleum sphondylium*), Rosebay Willowherb and False Oat Grass (*Arrhenatherum elatius*) also being found frequently along the lengths of the Hedges.

Plate 8 **Hedge with Trees (species poor)**



Poor Semi-Improved Grassland

- 3.3.13 One small area of Poor Semi-Improved Grassland is present along the northern boundary of the Southern Site Area (see. Cocks Foot (*Dactylis glomerata*) and Yorkshire Fog are the dominant species in this habitat with White Clover and Common Nettle also being present.

Plate 9 **Poor Semi-Improved Grassland**



Scattered Trees

- 3.3.14 A small area of Scattered Trees is present within the Poor Semi-Improved Grassland at the Site; the dominant species within this habitat is Ash.

Semi-Improved Neutral Grassland

- 3.3.15 One strip of Semi-Improved Neutral Grassland is present in the Southern Site Area along the western boundary (see Plate 10). It is likely that this grassland has been planted as part of the Entry Level Environmental Stewardship agreement which the land is subject to as the majority of the species present are much larger than would be expected if the species had colonised naturally; the forb species within the sward are also more dominant than the grasses which again suggests that the grassland is from a seeded source rather than that which has naturally colonised..
- 3.3.16 The dominant species within this habitat are Yorkshire Fog, False Oat Grass, White Clover (*Trifolium repens*) and Common Vetch (*Vicia sativa*), other forb species found within the habitat include Common Bistort (*Persicaria bistorta*), Prickly Sow Thistle, Rosebay Willowherb, Red Clover (*Trifolium arvense*), Fool's Parsley (*Aethusa cynapium*), Scented Mayweed (*Matricaria chamomilla*), Birds Foot Trefoil (*Lotus corniculatus*) and Common Chickweed (*Stellaria media*).

Plate 10 *Semi-Improved Neutral Grassland*



Semi-Improved Broadleaved Woodland

- 3.3.17 One small area of Semi-Improved Broadleaved Woodland is present in the north eastern corner of the Northern Site Area (see Plate 11). The woodland comprises mostly young-mature trees and some mature trees; the dominant tree species within the woodland is Ash. The ground flora is primarily dominated by Bramble scrub and Tall Ruderal species such as Hogweed and Rosebay Willowherb.

Plate 11 *Semi-Improved Broadleaved Woodland*



Tall Ruderal

- 3.3.18 Two small areas of Tall Ruderal vegetation are present within the Southern Site Area adjacent to the abandoned farm buildings and in the far southeast corner of the Southern Site Area (see Plate 12). The dominant species in this habitat are Rosebay Willowherb and Creeping Thistle; other species present within the habitat include Cotton Thistle (*Onopordum acanthium*), Cleavers,

Common Nettle and Ragwort (*Senecio jacobaea*).

Plate 12 Tall Ruderal



Plant Species

- 3.3.19 No notable or rare floral species were found at the Site.

Invasive Plant Species

- 3.3.20 Cotoneaster (*Cotoneaster horizontalis*), a Schedule 9 species listed on the Wildlife and Countryside Act 1981 is present at the Site at the front of the abandoned farm building – this was presumably planted historically as a garden plant.

3.4 FAUNA

- 3.4.1 Other than Common Breeding Birds and Badgers, no evidence of the presence of protected species was recorded at the time of the survey, however, other species which have been considered are also detailed below:

Amphibians

Great Crested Newt

- 3.4.2 No evidence of Great Crested Newts was found at the Site.
- 3.4.3 Several static water bodies are present within 500m of the Site which are not separated from the Site by significant barriers to dispersal; no evidence of Great Crested Newts was found within the

pond within 500m of the Site which was accessible to survey.

Mammals

Badger

- 3.4.4 One Badger latrine was found at the Site (see Plate 13) adjacent to the hedgerow on the northeast boundary of the Southern Site Area; though no other evidence of Badgers (i.e. setts, hairs, scratched posts) were found at the Site, or within 30m outside of the Site boundary.

Plate 13 ***Badger Latrine***



Bat Species

- 3.4.5 A Preliminary Roost Assessment was carried out on trees and buildings at the Site in line with current guidance (Hundt, 2012).
- 3.4.6 There are several Category 1*, Category 1 and Category 2 trees (Hundt, 2012) present within the hedgerows at the Site. The majority of these trees are located within hedgerows in the Southern Site Area, though one Category 1* Ash tree is present in the western extent of the Northern Site Area.
- 3.4.7 The residential building at the Site (Target Note 1 on CE-NK-0945-DW01) was assessed from a field boundary and showed no obvious potential for roosting bats from initial inspection.
- 3.4.8 The agricultural buildings at the Site are all suitable for roosting bats; the large storage shed has less suitability than the other buildings at the Site.

Other mammals

- 3.4.9 There was no evidence of use of the Site by other protected mammal species (Otter, Water Vole, Polecat etc.).

Birds

- 3.4.10 Several Breeding Bird species were identified at the Site; these were Carrion Crow (*Corvus corone*), Bullfinch (*Pyrrhula pyrrhula*), Blue Tit (*Cyanistes caeruleus*), Coal Tit (*Periparus ater*), Magpie (*Pica pica*), Green Woodpecker (*Picus viridis*), Swallow (*Hirundo rustica*) and Buzzard (*Buteo buteo*).
- 3.4.11 No evidence of 'Schedule 1' bird species was found at the Site.
- 3.4.12 No evidence of Wintering Birds was found at the Site.

Invasive Animal Species

- 3.4.13 No evidence of invasive animal species was found at the Site.

4 EVALUATION OF ECOLOGICAL ASPECTS

4.1 HABITATS

- 4.1.1 Section 3.3.1 lists the habitats present at the Site, at the time of survey only. These habitat types are evaluated in Table 3 against the Local Biodiversity Action Plan (Leicestershire and Rutland Wildlife Trust, 2010) and Section 41 of the NERC Act 2006 which details habitats of Principal Importance; as well as for their suitability to support protected species in order to assess their overall value. The overall value of the habitats is then assessed to Site, Local, Regional, National, or International value.

Table 3 *Habitat Value Assessment*

Habitat	LBAP Habitat Type	Section 41 Habitat of Principal Importance (NERC Act 2006)	Overall Value (incorporating floral diversity of habitat and suitable habitat for protected species)	Overall Value Level
Arable	Y – field margins	N	Low – Botanical diversity is very low. The field margins have low suitability for reptiles, however the habitat is unlikely to support other protected species.	Site only
Buildings	N	N	Low to High – The buildings are suitable to support roosting bats and Breeding Birds.	Site only*
Disturbed Ground - Short Ephemeral/Perennial	N	N	Low – Botanical diversity is typical of what would be expected within the habitat; and the habitat is unlikely to support protected species.	Site only
Hedge with Trees (species rich)	Y	Y	Moderate to High – Many trees within the hedgerows support suitable features for roosting bats and Breeding Birds.	Site only*
Hedge with Trees (species poor)	Y	Y	Low – Botanical diversity is very low and the habitat is unlikely to support protected species other than Breeding Birds.	Site only
Poor Semi-Improved Grassland	N	N	Low – Botanical diversity is low and the habitat is unlikely to support protected species.	Site only
Scattered Trees	N	N	Low – Botanical diversity is low and trees are generally young-mature specimens; the habitat is unlikely to support protected species.	Site only
Semi-Improved Neutral Grassland	N	N	Low to Moderate – Botanical diversity is moderately good, though the habitat is likely to have been artificially seeded. May be suitable for terrestrial invertebrates and ground-nesting birds.	Site only
Semi-Natural Broadleaved Woodland	Y	N	Low – Botanical diversity is very low and the structure of the habitat is poor. Suitable for Breeding Birds but is unlikely to support other protected species.	Site only
Tall Ruderal	N	N	Low – Botanical diversity within the habitat is poor and the habitat is unlikely to support protected species.	Site only

* The majority of species rich hedgerows and all buildings at the Site will be retained as part of the Proposed Development.

4.1.2 At a site-specific level, the habitats are of low to high overall value. Floral species diversity is generally low across the Site though some habitats are floristically diverse (i.e. Species rich Hedge with Trees and Semi-Improved Neutral Grassland). The overall value of the Site is increased only by its suitability for protected species, specifically Bats, Breeding Birds and Reptiles (see Section 4.1.2

below for further details regarding protected species).

4.2 FAUNA

Badgers

4.2.1 The Site supports **suitable foraging habitat for Badgers**, however no evidence of foraging was found at the Site and **no evidence was found of any Badger setts at or within 30m of the Site**.

4.2.2 One single hole latrine was found in the Southern Site Area adjacent to the boundary hedgerow.

Bats

4.2.3 Whilst the Site has **low suitability for foraging Bats**, several trees within hedgerows at the Site are considered to be **highly suitable for roosting Bats**. The abandoned agricultural and residential buildings in the Southern Site Area are also considered to be **highly suitable** for roosting bats.

Birds

4.2.4 The Arable fields, Poor Semi-Improved Grassland and Semi-Improved Neutral Grassland at the Site have **low to moderate suitability** to support **ground nesting birds**.

4.2.5 The Scattered Trees, Hedgerows, Woodland and Buildings at the Site are **suitable for nesting birds**.

Amphibians

4.2.6 The Semi-Natural Broadleaved Woodland and Semi-Improved Neutral Grassland at the Site are terrestrial habitats of **moderate suitability for Great Crested Newts**. Other habitats at the Site are **terrestrial habitat of limited suitability** for Great Crested Newts.

4.2.7 One pond to the northeast of Walton Holt Gorse is of **moderate suitability for Great Crested Newts**; although suitable egg-laying vegetation is present, the margins of the pond are heavily poached which suggests that the pond is subject to regular disturbance which reduces the likelihood of Great Crested Newts utilising the pond.

4.2.8 One record of a Great Crested Newt was provided by the LRERC due west of the Site just south of the aforementioned pond, this record is from 1992.

Reptiles

4.2.9 The field margins at the Site are of **low suitability** for reptiles due to evidence of high levels of disturbance from agricultural machinery and limited shelter from predators.

Invertebrates

4.2.10 There are **no habitats present at the Site or within close proximity of the Site which are suitable for White Clawed Crayfish**.

4.2.11 The Semi-Improved Neutral Grassland at the Site has **moderate suitability** for **terrestrial**

invertebrates, however the other habitats at the Site are considered to be of **low suitability for terrestrial invertebrates**.

5 IDENTIFICATION OF POTENTIAL IMPACTS AND EFFECTS

5.1 ASSUMPTIONS

- 5.1.1 It is assumed that hedgerows along the Site boundary and Buildings at the Site will be retained as part of the Proposed Development, and that the Proposed Development will follow good practice environmental guidelines to avoid any breach of wildlife legislation during the construction period and be aware of the potential presence of protected species.

5.2 IDENTIFICATION OF POTENTIAL IMPACTS

Other Sites of Wildlife Value

- 5.2.1 There are considered to be **no impacts** arising from the Proposed Development which will affect statutory or non-statutory wildlife sites within 2km of the Site's boundary (or beyond). This is due to the absence of statutory and non-statutory Sites within 2km of the Site and the confined nature of the Proposed Development to within the Site boundary.

6 ASSESSMENT OF EFFECTS

6.1 FAUNA

- 6.1.1 The effects on protected or notable faunal species which may be at the Site (as stated following section 5) are detailed below.

- Badger;
- Bats;
- Breeding and Ground Nesting Birds;
- Great Crested Newts;
- Reptiles; and
- Terrestrial Invertebrates.

Badgers

- 6.1.2 No evidence of Badger setts was found within 30m of the Site boundary. As no setts will be disturbed through construction of the Proposed Development, and the Site does not appear to be used for intensively foraging it is therefore considered that the Proposed Development is likely to have **no important negative effect** on Badgers.

Bats

- 6.1.3 The desk study identified several different species of bat using the area within 5km of the Site and

the Extended Phase 1 Habitat Survey identified several suitable trees at the Site which may be used by roosting bats. The Proposed Development **may have a significant negative effect** if roosting bats sites are identified in any of the Category 1*/1/2 trees at the Site.

Breeding Birds

- 6.1.4 The Scattered Trees, Semi-Natural Broadleaved Woodland, Buildings and Hedgerows at the Site are suitable for Breeding Birds, though the Hedgerow has limited suitability. The loss of the vegetation at the Site is considered to have **a minor negative effect of negligible importance** on breeding birds.
- 6.1.5 See Section 7.2.4 below, for recommendations to avoid or minimise potential adverse effects on Breeding Birds.

Great Crested Newts

- 6.1.6 One record of a Great Crested Newt was provided by the LRERC from 1992 to the north of Walton Holt Gorse.
- 6.1.7 Habitats at the Site which are of **moderate suitability** for Great Crested Newts will be retained; the Proposed Development will involve **no loss of suitable aquatic habitat for Great Crested Newts** and therefore, the loss of the remaining vegetation at the Site is considered to have no important effect Great Crested Newts.

Reptiles

- 6.1.8 The habitats at the Site are of **low suitability for reptiles**; therefore, the loss of the habitats at the Site is considered to have **a minor negative effect of negligible importance** on reptiles.

Terrestrial Invertebrates

- 6.1.9 The habitats at the Site have **low to moderate suitability** to support **terrestrial invertebrates**. The suitable habitats at the Site will be retained as part of the Proposed Development and therefore the Proposed Development will have **no important effect on terrestrial invertebrates**.

7 CONCLUSIONS AND RECOMMENDATIONS

7.1 HABITATS AND FLORA

- 7.1.1 The floral diversity at the Site is confined to areas which will be retained, or will only be partially affected by the Proposed Development (such as the Semi-Improved Neutral Grassland and two lengths of species rich hedgerows). As such, it is concluded that **the Site does not require any further surveys for its botanical interest**.

7.2 FAUNA

Bats

- 7.2.1 The habitats at the Site are considered to be of low suitability for foraging Bats, and the trees and Buildings at the Site are considered to be of high suitability for roosting Bats.
- 7.2.2 As the buildings will not be affected by the Proposed Development, no further surveys are considered necessary on the Buildings at the Site in relation to the Proposed Development.
- 7.2.3 **It is recommended that bat activity and emergence surveys are carried out in line with best practice (Hundt, 2012).**

Breeding Birds

- 7.2.4 To reduce any impact upon breeding birds, avoid any breach in wildlife legislation and maintain the local breeding populations, **any vegetation should be removed outside the bird breeding season** (March-September inclusive for most species). If this is not possible then vegetation should be checked by a suitably qualified ecologist prior to removal.
- 7.2.5 Biodiversity enhancements for Birds have been considered within section 8.3 of this report.

Great Crested Newts

- 7.2.6 In light of the aforementioned impacts and relative effects, it is considered that **precautionary working methods** are considered to be necessary for Great Crested Newts. Although the majority of the habitats at the Site are unsuitable for Great Crested Newts, and any suitable terrestrial habitats at the Site being retained as part of the Proposed Development there is one historical record close to the Site. It is considered that **the overall risk to Great Crested Newt populations in the area is likely to be low.**

Reptiles

- 7.2.7 In light of the aforementioned impacts and relative effects; **no further surveys are considered to be required for Reptiles.**

Terrestrial Invertebrates

- 7.2.8 In light of the aforementioned impacts and relative effects; **no further surveys are considered to be required for terrestrial invertebrates.**

7.3 OVERALL ASSESSMENT OF EFFECTS

- 7.3.1 Providing the recommendations are adhered to and providing that any subsequent surveys do not reveal likely adverse effects on protected species, it is considered that there would be **no important adverse effect** from the Proposed Development on fauna and habitats.
- 7.3.2 If protected species are found to be present within the Site following commencement of the Proposed Development, then appropriate surveys, mitigation and compensation measures should

be devised and implemented prior to any construction work taking place; including the production of European Protected Species licences for submission to Natural England if applicable.

8 POTENTIAL ENHANCEMENTS FOR BIODIVERSITY

8.1 GENERAL

- 8.1.1 The restoration of the Site will provide significant opportunities for biodiversity enhancements to several faunal species, some of which are priority species and habitats within the Leicestershire Biodiversity Action Plan (Leicestershire and Rutland Wildlife Trust, 2010); potential enhancements and opportunities within the restoration of the Site have been briefly detailed below:

8.2 FLORA AND HABITATS

- 8.2.1 The Site will likely be partially restored to agricultural land with the aim to create land of at least Grade 3a value which will enhance the agricultural value of the land in comparison to that which is currently present.
- 8.2.2 The peripheral hedgerows will be retained as part of the Proposed Development, and although two species rich hedgerows at the Site will be removed as a result of the Proposed Development, at least the equivalent length and species richness of hedgerow to be removed will be replaced as part of the restoration scheme. There are also opportunities to increase the overall species diversity within the hedgerows to be replaced as well as to gap up any retained hedgerows at the Site with additional species such as English Elm, Hazel (*Corylus avellana*) and other fruit/nut bearing species.
- 8.2.3 Generally there should be a preference within the restoration scheme to plant/sow native species with biodiversity value (i.e. nectar-rich wildflowers, fruit bearing trees/shrubs etc.).

8.3 FAUNA

- 8.3.1 There are significant opportunities to create habitats of value to wildlife (e.g. species-rich grassland, dense scrub, woodland, wetland etc.) as part of the restoration scheme; the species which may benefit from the restoration of the Site are detailed below:

Breeding Birds

The planting of woodland areas, Scattered Trees and re-laying of hedgerows will replace the habitat which has been lost as a result of the Proposed Development. It may also be possible to provide additional foraging areas for Breeding Birds through wildlife habitat creation at the Site (e.g. through planting seed/fruit bearing native flora).

Nest boxes could be provided at the Site specifically for Barn Owls (see below further information) which are both a Schedule 1 species (Wildlife and Countryside Act 1981) and a Leicestershire BAP Priority Species.

The siting of bird boxes prior to the commencement of the Proposed Development and as part of the restoration scheme would provide additional nesting habitat for birds at the Site as well as compensating for any nesting habitat to be lost; if these are to be included at the Site, they should be sited according to best practice.

The boxes could be specific to a variety of species such as Woodpeckers (*Dendrocopus* spp. and *Picus* sp.), Barn Owls (*Tyto alba*), Tree Sparrows (*Passer montanus*) and Starlings (*Sturnus vulgaris*) and should preferably be northeast-facing; see Plate 14 to Plate 16 below for examples of suitable bird boxes for these species.

Plate 14 **Tree Sparrow Terrace Nest Box (NHBS, n.d(c))**



Plate 15 **Starling Single Nest Box (NHBS, n.d(d))**



Plate 16 **Barn Owl Nest Box (NHBS, n.d(e))**



The RSPB (RSPB, 2014) state that bird boxes should be cleaned from September onwards **once birds have stopped using the bird boxes**. Any nesting material and unhatched eggs (which can only legally be removed between August and January) should be removed and disposed of. The bird boxes should then be cleaned with either boiling water or steam (no insecticides or flea powders

should be used).

It should be noted that Barn Owls are a Schedule 1 species (Wildlife and Countryside Act 1981) and that a box occupied by nesting adults and dependent young may only be disturbed or inspected by a licenced individual. The breeding season for Barn Owls is considered to be March to August (inclusive) (The Barn Owl Trust, 2015).

Badgers

The restoration to agricultural land will reinstate lost foraging areas for Badgers, the peripheral bunds which will be constructed as part of the Proposed Development may also provide suitable sett building opportunities which are currently not present at the Site and would therefore be considered as an enhancement.

Bats

Bat boxes installed before and after the Proposed Development (as detailed below) would replace suitable roosting habitat which may be lost as part of the Proposed Development. Additional woodland planting will also provide suitable foraging habitat which was not present prior to the Proposed Development.

Bat boxes could be installed on hedgerow trees on the Site boundary prior to the commencement of the Proposed Development to provide additional suitable roosting opportunities for bats; these could also be incorporated into the restoration scheme for the Site.

Bat boxes are attached to the trunks of mature trees, and if included, should be sited on the trees according to best practice (situated approximately 5-7m from the ground (Gunnell, et al., 2012)); a minimum of twenty bat boxes would be suitable for this development. Please see Plate 17 and Plate 18 below for examples of suitable bat boxes.

Plate 17 ***Kent Bat Box (multi-chamber) (NHBS, n.d(a))***



Plate 18 1FF Schwegler Bat Box (NHBS, n.d(b))



Dormice

Woodland planting at the Site which includes Hazel and other trees/shrubs which produce nuts/berries may be of benefit to Dormice which are protected under both the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2010; the Dormouse is also a Leicestershire priority BAP species.

Peripheral connectivity at the Site will be maintained as part of the Proposed Development and there is scope to enhance connectivity within the Site itself upon restoration by gapping up hedgerows – the linking up of existing hedgerows is also in line with the Hedgerow Action Plan which is detailed within the Leicestershire Biodiversity Action Plan (Leicestershire and Rutland Wildlife Trust, 2010).

Great Crested Newts

The creation of some dense grassland, scrub and woodland areas will provide additional suitable habitat for Great Crested Newts which was not present prior to the Proposed Development. There may be scope within the restoration scheme to create wetland areas which will also provide additional breeding habitat for the species.

The plant species detailed in Table 4 below have been identified as being suitable for Great Crested Newts by standard guidance (Langton, et al., 2001); these plants are suitable to plant/encourage to grow within any wetland/ponds to be created as part of the restoration scheme and would provide additional egg-laying areas for Great Crested Newts (and other newt species) which may colonise the Site.

Table 4 ***Suitable Aquatic Plants for Great Crested Newts***

Scientific Name	Common Name	Submerged (S), Floating (F) or Marginal (M) Plant
<i>Alisma plantago-aquatica</i>	Water Plantain	M
<i>Callitriche stagnalis</i>	Common Water Starwort	S
<i>Cardamine pratensis</i>	Cuckoo Flower	M
<i>Epilobium hirsutum</i>	Great Willowherb	M
<i>Hydrocharis morsus-ranae</i>	Frogbit	S
<i>Mentha aquatica</i>	Water Mint	S
<i>Myosotis scorpiodes</i>	Water Forget-Me-Not	M
<i>Nymphaea alba</i>	White Waterlily	F
<i>Polygonum amphibium</i>	Amphibious bistort	M
<i>Potamogeton crispus</i>	Curled Pondweed	S
<i>Potamogeton natans</i>	Broad Leaved Pondweed	F
<i>Potentilla palustris</i>	Marsh Cinquefoil	M
<i>Ranunculus lingua</i>	Greater Spearwort	M
<i>Stratiotes aloides</i>	Water Soldier	F

Reptiles

The creation of grassland, scrub, wetland and woodland areas upon restoration of the Site may be of benefit to reptiles for foraging and basking.

Invertebrates (terrestrial and aquatic)

The creation of grassland, scrub, woodland and wetland (if feasible) areas will be of benefit to aquatic and terrestrial invertebrates, and the planting of nectar-rich native flora will also be of benefit to bees and other pollinators which have suffered drastic declines in recent years.

Three Leicestershire Bap priority species, the Black Hairstreak Butterfly, the Grizzled Skipper and the Dingy Skipper may also benefit from additional grassland and scrub planting, and seed mixes/hedgerow planting could be tailored to specifically include food plants of these species (e.g. Bramble, Blackthorn, Common Bird's Foot Trefoil, Wild Strawberry (*Fragaria vesca*) and Creeping Cinquefoil (*Potentilla reptans*).

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APPENDICES:

Appendix E1	Drawing CE-NK-0945-DW01 Extended Phase 1 Habitat Survey Map
Appendix E2	Biological Records from Leicestershire and Rutland Environmental Records Centre (to be provided)

APPENDIX E1: Drawing CE-NK-0945-DW01 – Extended Phase 1 Habitat Survey Map



Legend:

- Site Boundary
- 30m Buffer from Site Boundary
- Hedge with Trees (Species Rich)
- Hedge with Trees (Species Poor)
- Broadleaved Woodland
- SI Neutral Semi-Improved Grassland
- SI Poor Semi-Improved Grassland
- Tall Ruderal
- A Cultivated Land
- Cultivated Land (Short Perennial)
- Buildings
- Badger Latrine
- Target Note

Final Revision:	Date:	Description:	By:	Chk:
-	-	-	-	-

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Site: **Pincet Lane, North Kilworth**

Drawing Title: **Phase 1 Habitat Survey**

Date: 26 / 8 / 2015	Scale: 1:8,500	Paper Size: A3 (420x297mm)
Drawn By: SG	Checked By: KJ	Status: Final
CAD Ref: CE-NK0954-DW06-Final		Drawing No: Figure 1

**APPENDIX E2: Biological Records from Leicestershire and Rutland Environmental
Records Centre (to be forwarded once received)**