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Ecological Appraisal

Project: Summerhill Farm

On behalf of: Nigel Thorns

Date: Updated 23rd August 2017

N.B. The contents of this report contains information regarding protected species of a sensitive nature.

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Executive Summary

The content of this report details the findings of an Extended Phase 1 survey undertaken to inform a planning application for the development of land at Summerhill Farm, Summerhill. The site is centred on approximate Ordnance Survey Grid Reference SJ 310 533.

An assessment of the proposals and site layout (Appendix 1) identifies the works which will include a housing development with associated highway access, pedestrian access, and landscaping.

An Extended Phase 1 survey identified an area of intensively grazed semi improved grassland, stable blocks, mature trees, hedgerows and stand of Japanese knotweed (an invasive non-native species). A strategy to control and prevent the spread of the species of plant should be implemented prior to development.

Two areas within the site contained a collection of native bluebells. It is understood that both of these areas are to be retained and unaffected by the proposals therefore, mitigation will not be required.

The desktop study (using freely available online mapping resources) identified a disused tunnel crossing the site in the direction of west to east. However, a walkover of the site and its surrounds did not reveal any of the entrances.

Two trees, being a beech and an oak tree was found to contain features suitable for roosting bats and nesting birds. It is understood that one is to remain in situ as part of the proposals and the other is to be removed. Prior to the removal an aerial potential bat roost inspection with an endoscope will be required.

The site provides opportunities for nesting birds, therefore the provision of new bird boxes has been recommended. New hedgerow planting as part of the landscaping scheme is recommended and will provide further nesting opportunities.

A desktop study identified no standing water located within the 500m zone of influence of the proposed site. Therefore, no further studies with regards to GCN or Amphibians were considered necessary to the appraisal.

The findings of the assessment support the conclusions that the development will not be detrimental to protected species following the provisions set out in **Section 3 & 4** of this report.

Section 1

Introduction

- 1.1 Pearce Environment Ltd were commissioned by Nigel Thorn to undertake an Extended Phase 1 survey. The findings have been used to inform a planning application for the development of land at Summerhill Farm, Summerhill (hereafter referred to as 'the site'). The site is centred on approximate Ordnance Survey Grid Reference SJ 310 533.
- 1.2 This report sets out the results of a desk study and Extended phase 1 habitat survey undertaken by Pearce Environment Ltd. The findings of the report have been used to inform a planning application for the development of housing.
- 1.3 The aims of this report are to:
- Determine the habitat types within and immediately adjacent to the application area;
 - Identify both habitats and species constraints pertinent to the development proposals with specific focus on bats and birds.
 - Detail EPS licensing requirements, reasonable avoidance measures, mitigation and compensation measures where necessary; and
 - Identify opportunities for the proposed development to provide enhancements and add to the biodiversity resource within the site.

Section 2 Methodology

- 2.1 This section summarises the methodologies used during the ecological studies, undertaken to inform the proposed development of the site, in line with the aims set out in **Section 1** of this report.

Desk Study

- 2.2 The desk study is an important part of the ecological assessment, it provides contextual information, such as the sites proximity to designated sites and known records of protected/notable species. This information is used to supplement the findings of the Detailed Phase 2 surveys and supports the recommendations and conclusions in **Section 3 & 4** of this report.

Table 2.1: Summary of resources and information requested during the desk study (May 2016)

Organisation/Resource	Information Assessed (search distance from site boundary)
Cofnod	• Statutory designations (2km) • Non-statutory designations (2km) • Protected/UK BAP species records (2km)
MAGIC website ¹	• International statutory designations (1km) • National statutory designations (1km)

- 2.3 The search areas described above and resources used are considered to be sufficient to assess the potential for the proposal to affect protected species and designations of conservation concern. All pertinent information obtained during the desk study is referenced within **Section 3** of this report.

¹ Multi-Agency Geographic Information for the Countryside website (www.magic.gov.uk/)

Extended Phase 1 Survey

- 2.4 This level of survey does not aim to provide a complete floral and faunal inventory present on site but to identify field signs of/habitats with the potential to support protected species, thereby determining the need for detailed Phase 2 survey(s).
- 2.5 The main habitat types and dominant plant species present per habitat type were identified and mapped in **Plan 1**, summarised in **Section 2** and illustrated using photographs included within this report.
- 2.6 The Extended Phase 1 survey of the site was undertaken on the 11th May 2016 in clear and dry conditions. This time of year is considered to be the optimal period for undertaking an Extended Phase 1 survey. Given the context of the site and species present this study is not considered to have been limited by seasonal or climatic factors.
- 2.7 The survey was performed by Paul Roberts, an experienced ecologist who holds protected species licences for both bats and great crested newts.

Species Surveys

Bats

Bat Roosting Assessment: Trees

- 2.8 An assessment from the ground of all suitable trees located on or immediately adjacent to the site boundaries was undertaken by a Natural England licensed bat worker to determine their potential to support roosting bats.
- 2.9 All trees examined were categorised in accordance with Table 8.4 of “*Bat Conservation Trust’s Good Practice Guidelines*”² based on the number and types of features known to be suitable to support roosting bats. These features include cracks and splits in limbs, cavities, woodpecker holes, loose bark and thick-stemmed ivy. Where appropriate these features were assessed using binoculars and/or endoscopes.

Preliminary Bat Roost Assessment: Buildings

- 2.10 A daytime external assessment of all structures on site was undertaken to determine their potential to support roosting bats. All external features considered potentially suitable for bats were identified and assessed. Signs of bat activity such as droppings, feeding remains and urine staining were also searched for within all accessible areas. The potential suitability of the structures assessed was assigned a rating of low to high in accordance Table 8.2 & 8.5 of “*Bat Conservation Trust’s Good Practice Guidelines*”. The need/scope of Phase 2 surveys were assessed on this basis.

² Hundt, L. (2016). *Bat Surveys: Good Practice Guidelines. 2nd Edition*. Bat Conservation Trust, London

- 2.11 An internal assessment of all accessible loft voids was undertaken by a Natural Resources Wales licensed bat worker for evidence of roosting bats such as droppings, feeding remains and staining.

Great Crested Newts

Habitat Suitability Index (HSI) Assessment

- 2.12 A desk based study was undertaken using OS maps and online mapping resources to identify those waterbodies within 250m of the sites boundaries.
- 2.13 Those ponds identified within the search area, not considered separated by major barriers and where access was permissible were assessed for their potential to support great crested newts using the Habitat Suitability Index (HSI) developed by Oldham et al. (2000)³. This assessment uses a scoring system of several criteria such as water quality, fish/waterfowl presence and surrounding terrestrial habitat from which a score is derived. Water bodies with higher scores are considered more likely to support great crested newts compared to those with low scores.
- 2.14 This tool has been developed to provide a quantitative measure between ponds of their suitability to support great crested newts and should not be used as a substitute for presence/absence surveys where they are required.
- 2.15 The assessment was performed during the Extended Phase 1 survey by a Natural Resources Wales great crested newt licence holder. HSI scores relating to the suitability of ponds to support great crested newts are described within **Table 2.4** below.

Table 2.4: Pond suitability for great crested newts determined using HSI scoring system

HSI Score	Pond suitability to support great crested newts
<0.5	Poor suitability
0.5 – 0.59	Below average suitability
0.6 – 0.69	Average suitability
0.7 – 0.79	Good suitability
> 0.8	Excellent suitability

- 2.16 A terrestrial search was undertaken during the Extended Phase 1 survey for herptiles seeking refuge beneath debris, including log piles and where present piles of brick/rubble. The hand search was undertaken by a great crested newt licence holder.

Nesting birds

- 2.17 An assessment from the ground of all trees/ boundary vegetation located on or immediately adjacent to the site boundaries was undertaken by an experienced ecologist, to identify the presence of habitat/features suitable for nesting birds.

³Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). *Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus)*. Herpetological Journal 10 (4), 143-155.

Badgers

- 2.18 A thorough site walkover was undertaken to determine the presence of badgers. The surveyor had unrestricted access to the entirety of the site. Field signs such as setts, scrapings produced during foraging behaviour, latrines, paths and prints were searched for. Where present, an assessment of excavations was made taking into account the shape of the entrance, quantity of spoil and presence of badger hair/claw marks.

Reptiles

- 2.19 A terrestrial hand search was undertaken during the Extended Phase 1 survey for reptiles basking and seeking refuge beneath debris, including hay piles.

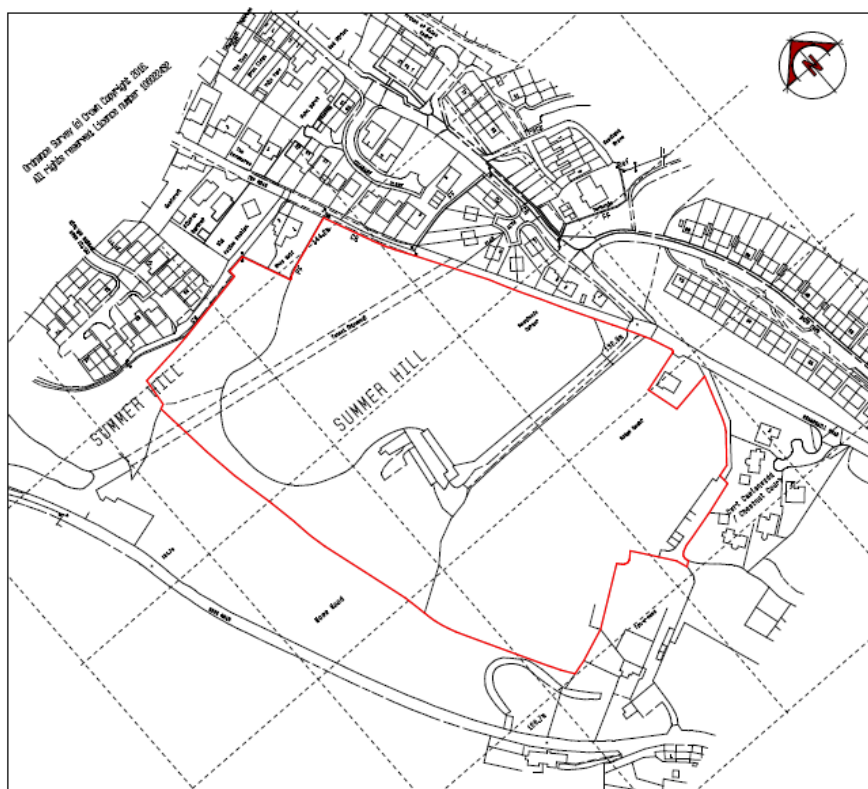
Section 3

Results and Recommendations

Site Description

- 3.1 The site comprises of five conjoined pasture fields located on the western periphery of the village of Summerhill (**Figure 3.1**), an area of landscape formed by the extraction of coal. The site itself includes grazed, semi improved grassland, stable blocks, mature trees, hedgerows and a stand of Japanese knotweed (an invasive non-native species).
- 3.2 The immediate landscape to the west supports a broadleaved woodland known as Moss Wood and built up areas of residential dwellings with associated access roads to the north and east. To the south of the site meets neighbouring dwellings and includes a Jacobean listed building and garden known as “Gwersyllt Hill”. The site is location is depicted in **Figure 3.1** below.

Figure 3.1: Site location plan provided by Nigel Thorns.



- 3.3 The range of habitats on the site can be summarised as follows: semi improved grassland, fencing, two buildings/structures, a wall, mature trees and hedgerows. These are represented on the habitat map in **Appendix 1**.

- 3.4 The proposed site consists of five adjoining fields, largely separated by stock proof fencing. All of the fields have been or are being grazed and therefore kept to a short sward. This habitat is categorised by the flora species present and includes: nettle (*Urtica dioica*), creeping buttercup (*Ranunculus repens*), cow parsley (*Anthriscus sylvestris*), common ryegrass (*Lolium perenne*), broadleaved dock (*Rumex obtusifolius*), yorkshire fog (*Holcus lanatus*), foxtail (*Alopecurus spp.*) and clover (*Trifolium repens*).

Figure 3.2: A representation of the vegetative state of the site.



- 3.5 Within the southern aspect of the proposed site and encroaching from the neighbouring land, stands two areas of Japanese knotweed (*Fallopia japonica*) approximately 15m² and 5m² respectively. This is an invasive non-native species and will require a strategy to control and prevent the spread of the plant which should be implemented prior to development. This in line with a code of practice set out by the Environment Agency.

Image 3.3 Japanese knotweed



- 3.6 Located within the south western and the northern western periphery of the proposed site are patches of bluebells (*Hyacinthoides non-scripta*). The native bluebell is a UK BAP species and is also protected under the Wildlife and Countryside Act 1981. These areas are represented on the habitat map in appendix 1. It is understood that this area is to be retained as open space and therefore will be unaffected by the proposals.

Image 3.4 Bluebells located in the south western aspect of the site.



- 3.7 The eastern boundary lies adjacent to Top Road and consists of a defunct hedgerow, dominated by hawthorn (*Crataegus monogyna*) with the presence of hazel (*Corylus avellana*) and elder (*Sambucus nigra*). This boundary provides the existing access into the site.

Image 3.2 Eastern aspect of the site with an arrow indicating the access point.



- 3.8 The northern aspect of the site consists of a number of mature trees constituting a small stand of woodland. There is a retaining stone wall providing a boundary between the site and the neighbouring land. A small stand of bluebells was located within the margins. It is understood that this area will be unaffected by the proposals, therefore no mitigation is required.

Image 3.3 Bluebells within the northern position of the site



Buildings

- 3.9 The two single storey brick built stables with corrugated metal roofs are located almost central to the site. These buildings were inspected and found not to contain features suitable for roosting bats or nesting birds. No evidence of bats or nesting birds was found during the survey.

Image 3.3 The stables with an insert which shows the internal view.



Desk Study - Designated Sites/Habitats of Importance

Statutory Designations

- 3.10 A desk based study was undertaken to identify the presence of statutory designations which include;

International recognised statutory designations

- Special Protection Areas (SPAs)
- Special Areas of Conservation (SACs)
- Ramsar Sites.

National recognised statutory designations

- Sites of Special Scientific Interest (SSSIs)
- National Nature Reserves (NNRs),

Local level statutory designations

- Local Nature Reserves (LNRs)

- 3.11 The desk study did not identify any statutory designations within a 1km search radius of the site
- 3.12 Two non-statutory designations known as Local Wildlife Site (LWS) within Shropshire were identified detailed in **Table 3.7** below and illustrated in **Plan 2**.

Table 3.7: Local Wildlife sites (LWS) within 1km of the site.

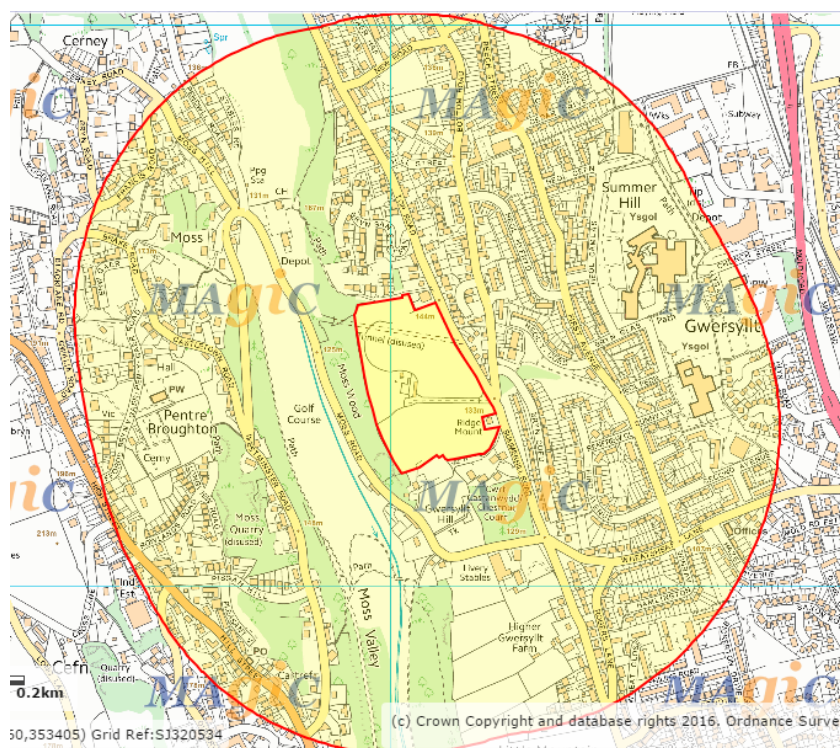
LWS name	Site Type	Ecological Interest
Moss Valley	Local Wildlife Site	A wooded valley with adjoining grassland
Alyn Waters	Local Wildlife Site	Riparian woodland

- 3.13 The development is restricted to the portion of the site highlighted in **Image 3.1** therefore no effects are anticipated upon any of those designations detailed above, or the species they support, given the scale and nature of the development.

Habitats of Importance

- 3.14 An assessment of the surrounding habitats using OS maps and online mapping resources identified no open standing water within the required zone of influence (500m) illustrated in **Image 3.8** overleaf.

Image 3.8 Desk based search for water bodies within 500m of the study area.



Desk Study – Species Records

- 3.15 During the course of the desk study a total of 878 species records were retrieved. Those pertinent to the study include records of great crested newt (*Triturus cristatus*) located within 1km of the site.
- 3.16 A diverse assemblage of bat species has been recorded in the local area including accounts of natterer's bat (*Myotis nattereri*), noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*) and lesser horseshoe bat (*Rhinolophus hipposideros*).
- 3.17 The remainder of those records recorded are attributable to species of vascular plants, plus an individual Western hedgehog (*Erinaceus europaeus*), a European polecat (*Mustela putorius*), and numerous Schedule 1 and Schedule 9 bird species.

Species constraints

- 3.18 Potential species constraints are detailed below, informed by the findings of the desk study combined with observed field signs or actual presence of protected species identified during the Extended Phase 1 survey.

Bats

- 3.19 An initial site visit was undertaken on the 11th May 2016 to assess the building and its potential to support roosting bats. An internal and external inspection was undertaken considering suitability for roosting bats.
- 3.20 The stables were found to be unsuitable to bats due to the lack of features such as crevices and cavities or suitable materials used for the construction of the building. No evidence of bat activity or presence was found during an internal and external examination.
- 3.21 There are a number of trees situated within the proposed site and within the boundaries. Bats are likely to forage around the trees and along the hedgerow; the latter also have the potential to provide commuting routes.

Legislation

- 3.22 All species of British bat are listed as an European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV(a) to the Habitats Directive). This affords them strict protection under the Conservation of Habitats and Species (Amendment) Regulations 2010, making it an offence to:
- Deliberately capture, injure or kill a wild animal of an EPS;
 - Deliberately disturb wild animals of an EPS wherever they are occurring, in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or in the case of hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong;
 - Deliberately take or destroy the eggs of a wild animal of an EPS; or
 - Damage or destroy a breeding site or resting place of a wild animal of an EPS.

Additional protection for bats is also afforded under the Wildlife and Countryside Act 1981 (as amended), making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place which is used for shelter or protection, or to obstruct access to this structure or place.

Recommendations –

- 3.23 A minimum of 6 1FR bat boxes are to be integrated into the fabric of the new buildings (**Image 3.8**). The exact location of these boxes is to be agreed with an appointed ecologist.

Image 3.8 An example of a Schwegler 1FR bat box



- 3.24 All proposed new lighting will be directed away from any vegetated boundary features to retain dark corridors for commuting bats across the site. The foraging/commuting resource will thereby be protected by a sensitive lighting scheme, as per 'Bats and lighting in the UK, BCT, 2009'. Thus no further activity surveys are required.
- 3.25 All domestic external lighting will be of the Passive Infra-Red type, set on a short timer and orientated towards the ground.

Dormouse

- 3.26 No records of dormice (*Muscardinus avellanarius*) were retrieved from Cofnod during the course of the desk study nor are those habitats on site considered extensive enough to support a viable population given lack of connectivity to surrounding woodland and past management.

Water Vole and Otter

- 3.27 No records of water vole (*Arvicola amphibius*) were retrieved during the course of the desk study, the site does not fall within close proximity of any water course which could be used by Otter recorded in the local area. Neither species are a constraint to development on this basis.

Badger

- 3.28 The site itself provides opportunities for badger to forage by way of grassland within the small block of woodland north of the site. Badger tracks and snuffle holes were identified within the north western aspect of the site however; no setts or excavations were noted within close proximity to the boundaries of the site.

Amphibians

- 3.29 A desk based assessment using OS maps, online mapping resources and search during the Extended Phase 1 survey identified no water bodies within 500m of the site illustrated in **Image 3.8**.

Reptiles

- 3.30 No records of reptiles were retrieved during the desk study. During the site walk over it was noted that those terrestrial habitats on site were considered unsuitable due to the grazing regimes within the site.

Birds

- 3.31 The amenity planting and fruit trees provide opportunities for small numbers of common passerine species.
- 3.32 There are opportunities for nesting birds throughout the trees and hedgerows bounding and crossing the site.

Legislation

- 3.33 All wild birds, their nests and eggs are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), this makes it an offence to:

Intentionally kill, injure or take any wild bird;

Take, damage or destroy the nest of any wild bird while it is in use or being built;

Take, damage or destroy the egg of any wild bird; or

To have in one's possession, or control, any wild bird (dead or alive) or egg or any part of a wild bird or egg.

In addition, further protection is afforded to those wild bird species listed on Schedule 1, prohibiting any intentional or reckless disturbance to these species while it is nest building, or at a nest containing eggs or young, or to recklessly disturb the dependent young of such a bird.

Recommendations

- 3.34 The site has the potential to support a passerine bird species utilising the trees and hedgerows to nest and forage.
- 3.35 All boundary hedgerows are to be retained (other than a small portion along the eastern boundary to allow new access points).
- 3.36 Any vegetation clearance on site should be timed to occur outside the bird breeding season (February–August). In the event that vegetation removal is required within this time period then inspections for nests should be undertaken of any vegetation to be removed by a suitably qualified ecologist immediately prior to the start of any works.
- 3.37 Should any active nest be found, then a buffer zone of at least 5m should be created around the nest and maintained until all chicks have fledged before works can commence/continue.
- 3.38 It is recommended that new hedgerow planting will be provided by installing bare rooted stock of local provenance spaced approximately 30cm apart in two staggered rows to allow six whips per meter. Bare rooted stock will be installed using supportive canes and plastic spiral guards.

Image 3.22 Species composition of new hedgerow planting

Species	Composition
hawthorn (<i>Crateagus monogyna</i>)	70%,
hazel (<i>Corylus avellana</i>)	10%,
guelder rose (<i>Viburnum opulus</i>)	4%,
dog rose (<i>Rosa canina</i>)	3%,
field maple (<i>Acer campestre</i>)	3%,
blackthorn (<i>Prunus spinosa</i>)	2%,
crab apple (<i>Malus sylvestris</i>)	2%,
dogwood (<i>Cornus sanguine</i>)	2%,
holly (<i>Ilex aquifolium</i>)	2%,
spindle tree (<i>Euonymus europaeus</i>).	2%,

- 3.39 It is proposed the new hedgerow planting incorporated along the eastern boundary of the site will enhance foraging and nesting opportunities for common passerine species.

Section 4

Conclusions

Habitats and plants

- 4.1 Two areas of the site contain collections of bluebells. It is understood as part of the proposals these areas are to be retained therefore, no mitigation or further provisions are required.
- 4.2 Two stands of Japanese knotweed (an invasive non-native species) were located on the site, therefore a strategy to control and prevent the spread of the plant should be implemented prior to development.

Nesting Birds

- 4.3 The site has the potential to support a small number of common passerine species utilising the hedgerows and trees to nest and forage. Where vegetation clearance is required it should be timed to occur outside the bird breeding season (February–August) or supervised by an ecologist.
- 4.4 In the event that vegetation removal is required within this time period then inspections for nests should be undertaken of any vegetation which is to be removed by a suitably qualified ecologist immediately prior to the start of any works.
- 4.5 **Should any active nest be found, then a buffer zone of 5m should be created around the nest and maintained until all chicks have fledged before works can commence/continue.**

Badgers

- 4.6 There was evidence of badger tracks therefore this species is deemed a possible constraint to the proposals. Due to the localised area of de-vegetation works the badger method statement contained in this report should be adhered to:
- 4.7 If a badger sett is found within the planned area(s) for de-vegetation then a “stand off” of at least 10m will need to be implemented from each sett entrance, for example, move onto the next strip.
- 4.8 All badger paths and sett entrances shall not be blocked at any time by vegetation or equipment.
- 4.9 If unsure that a hole is a badger sett then then a “stand-off” must be implemented and an ecologist called in to verify origin.

Bats

- 4.10 There were two trees (oak and beech) on site which was deemed suitable to support roosting bats. It is understood one (beech) is to remain in situ as part of the proposals and the other (oak) is planned for removal. This tree shall be retained until a climbing inspection has been undertaken.
- 4.11 No evidence of other protected species was noted during the course of the ecological appraisal.

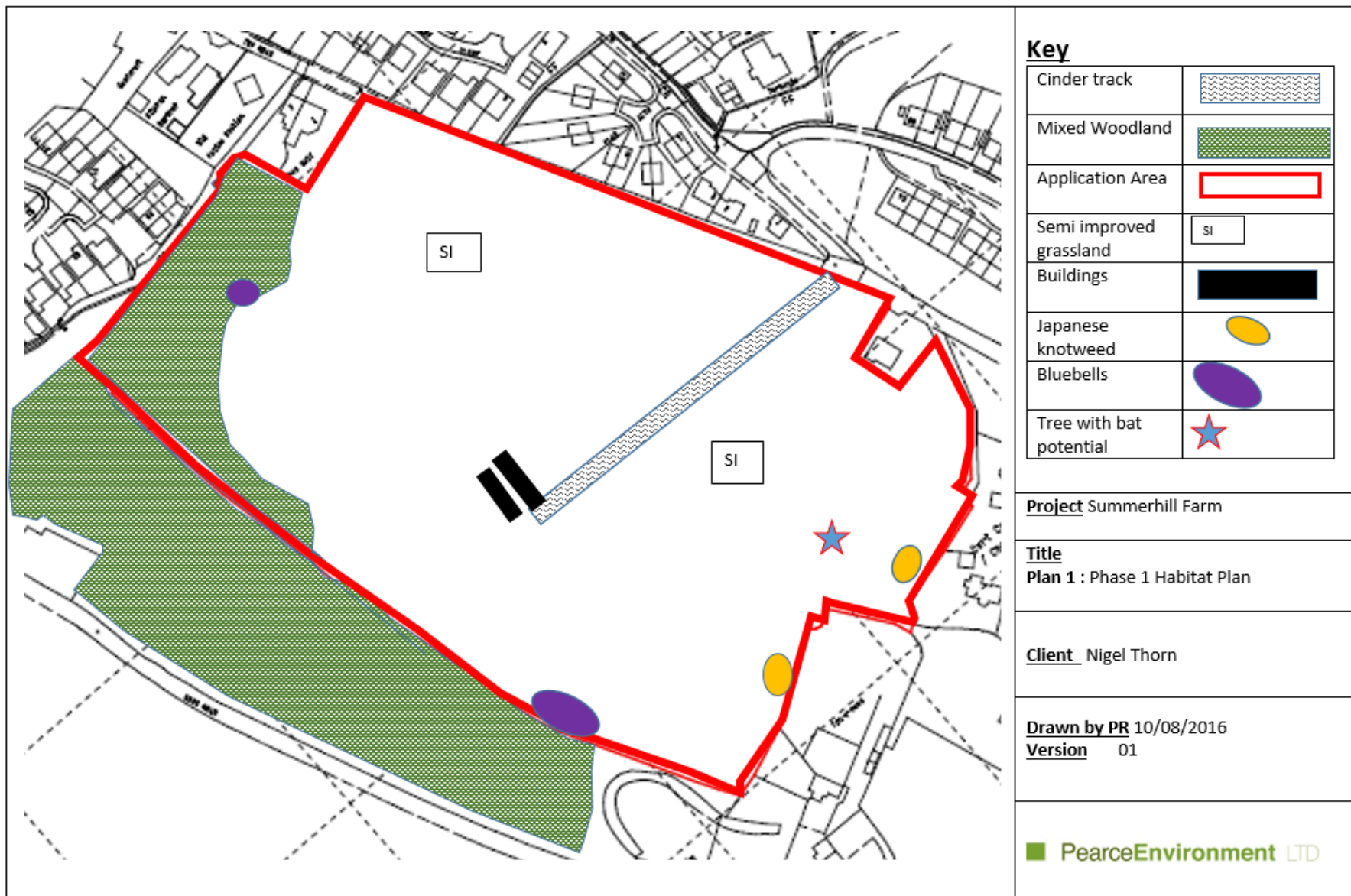
Table 4.1: Summary of status of protected species on site with recommendations.

Group	Status on site	Additional survey requirements	Recommendations
Habitats	Predominantly semi improved grassland on site.	No further surveys required.	No actions needed
Bats	Buildings were found to be unsuitable for bats.	A climbing inspection is necessary prior to removal of the tree.	No foreseeable actions required. Bat boxes and lighting scheme is recommended
Birds	Common bird species are likely to nest in the vegetation and boundary trees.	Limited vegetation removal proposed. No further surveys required.	Where required avoid vegetation removal within the bird nesting season (February-August inclusive) or undertake immediately after a suitably qualified ecologist has confirmed no nesting birds are present.
Badgers	Tracks and scrapes were noted however no sett was located on site.	No further surveys required.	No actions needed.
Amphibians	No ponds within 500m	No further surveys required	No actions needed.
Reptiles	No suitable habitat on site	No further surveys required.	No action required
Otter/Water vole	No suitable habitat on site	No further surveys required.	No action required

Concluding Remarks

- 4.12 Subject to the implementation of those recommendations set out within this report, no significant impacts upon protected/notable species potentially present on site are considered likely to arise.
- 4.13 In the unlikely event evidence of protected species are discovered during works everything will halt and advice will be sought from Pearce Environment.
- 4.14 The findings of this report are valid for up to one year from the date of this report, Pearce Environment Ltd retain the right to re-publish data obtained and submit those species records produced during all ecological studies to the local recording centre.
- 4.15 Should the proposals be altered significantly, such that changes to the working area and/or duration of the works arise, then a re-assessment of the likely impacts arising by a suitably experienced ecologist will be required.

Appendix 1



Appendix 2

