absolute ecology LLP wildlife surveys

Preliminary Ecological Appraisal

J Hallam Land Rover,

Macclesfield Road,

Rushton Spencer ,

Staffordshire,

Mr J Hallam

November 2017

Notice to readers

This report has been prepared by Absolute Ecology with all reasonable skill, care and diligence, within the terms of the contract with the client. The actions of the surveyor on site, and during the production of the report were undertaken in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management (www.cieem.org.uk).

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The results of the survey and assessment work undertaken by Absolute Ecology are representative at the time of surveying.

Every endeavour has been made to identify the presence of protected species on site, where this falls within the agreed scope of works.

The flora and fauna detailed within this report are those noted during the field survey and from anecdotal evidence. It should not be viewed as a complete list of flora and fauna species that may frequent or exist on site at other times of the year.

Up to date standard methodologies have been used, which are accepted by Natural England and other statutory conservation bodies. No responsibility will be accepted where these methodologies fail to identify all species on-site.

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Reference to sections or particular paragraphs of this document taken out of context may lead to misrepresentation.

Non-technical summary

Absolute Ecology LLP was commissioned to undertake a Preliminary Ecological Appraisal of a site known as Land to the rear of J Hallam Land Rover, Macclesfield Road, Rushton Spencer, Staffordshire. The Preliminary Ecological Appraisal was undertaken on 27th November 2017 by Helen Staton BSc (Hons) an experienced and licensed ecologist who is an Associate member of the Chartered Institute of Ecology & Environmental Management (ACIEEM).

The survey area is situated in a predominantly rural location, within the village of Rushton Spencer. The site is immediately bounded to the north east by a watercourse (a conduit of the River Dane) and associated riparian habitat including scrub and tall ruderal, to the south east by a residential property, to the south west by a large building used as a commercial vehicle garage (Building 1 – B1) and to the north west by an improved grassland field.

The site itself is predominantly tussocky poor semi-improved grassland with occasional tall ruderal vegetation. The site is bounded by hedgerows and fence lines.

There are no statutory sites located within 2km of the site boundary. There are twenty non-statutory sites within 2km. The majority of the non statutory sites are well removed and isolated from the site by areas of residential housing, watercourses and roads. One Local Wildlife Site, Lane End Farms (north of) is located within close proximity, 25m to the north of the site boundary and located over a watercourse. Its key ecological features are those of flora, therefore no direct impacts are envisaged on this habitat should the site be redeveloped.

The Preliminary Ecological Appraisal confirmed the presence or potential presence of the following (see section 5 for further details):

- **Bats** - no potential bat roosting features are present on or immediately offsite. The site does however hold potential to support foraging bats with known roosts present within the area. It is recommended that the hedgerows are retained and that a lighting plan is designed to avoid light spill onto potential bat foraging/commuting habitat i,e, adjacent watercourse and hedgerows. It is also recommended that bat boxes are incorporated into the redevelopment;

- **Badgers** – no badger setts were recorded on or immediately offsite. Mammal paths and latrines were recorded on and offsite indicating the area is been used by badgers for forgaing/commuting. As activity patterns of this species can change over a short time it is recommended that an update badger survey is undertaken prior to the commencement of works;

- **Nesting birds** – the bounding hedgerows offer suitable nesting opportunities and it is recommended that they are retained. Any vegetation clearance should be done outside of the bird nesting season which runs from March – August inclusive;

- **Barn owl –**The redevelopment of the site could result in the loss of barn owl foraging opportunities. It is recommended that a barn owl nesting box is incorporated into the redevelopment or on an adjacent building;

- **Reptiles -** The habitats onsite and offsite are considered suitable for reptile utilisation, for grass snake in particular. It is therefore recommended that reptile presence/absence surveys are undertaken. Reptile surveys can be carried out between April and September (April, May and September being the optimal survey months). Seven checks of the refugia will need to be carried out to confirm presence or absence;

- **Great crested newts** - the habitats present onsite (tussocky poor semi improved grassland, hedgerows) offer suitable great crested newt (GCN) terrestrial habitat (in addition to other common amphibians). There are four ponds within 500m of the site boundary, including Pond 1 located 175m to the north east. This pond was subject to a Habitat Suitability Index assessment which concluded the pond to be of 'good' value for supporting GCN. Presence/absence surveys will therefore need to be carried out on P1 as the sites redevelopment could result in the loss of terrestrial GCN habitat. Four repeat surveys of the pond should be undertaken between mid-March and mid-June, with at least two of these in mid-April and mid-May. Should GCN be recorded during the four visits an additional two surveys will be required to assess the population size and a European Protected Species (EPS) licence may be required to allow works to commence onsite. Pond's 2, 3 and 4 due to their distance away from the site do not require further assessment; and

- **Watercourse** – as the watercourse to the north east is within a close proximity to the site (approximately 10m form the site boundary), precautions need to be in place to ensure there is no accidental damage/pollution to the watercourse as a result of the works.

No other ecological constraints were identified. The watercourse was assessed to be of low value for supporting riparian mammals and any proposed redevelopment works are unlikely to directly impact the watercourse.

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9.0 GCN Rapid Risk Assessment

1.0 Introduction

Background

1.1 Absolute Ecology LLP was commissioned to undertake a Preliminary Ecological Assessment of a site known as Land to the rear of J Hallam Land Rover, Macclesfield Road, Rushton Spencer, Staffordshire. The site is centred on Ordnance Survey (OS) grid reference: SJ7937626.

1.2 The Assessment was undertaken on the 27th November 2017 by Helen Staton BSc (Hons) an experienced ecologist who is an Associate member of the Chartered Institute of Ecology & Environmental Management (CIEEM). Helen holds a Natural England Class 1 Bat Licence and Class 1 Great Crested Newt Licence.

1.3 The scope of this appraisal has been determined in line with the proportional approach to ecological survey, assessment and subsequent recommendations for avoidance and mitigation of impacts, which is encouraged in the emerging 'BS 42020: Biodiversity – Code of practice for planning and development'. This report has been prepared with du consideration for various best-practice guidance and methodologies including those of the Chartered Institute of Ecology and Environmental Management (CIEEM (2012)1 and the emerging BS 42020.

1.4 The objective of this report is to provide the client with information on any known or potential protected or rare species that may be using the site, and to outline recommendations on how to proceed with the works in a legal and ecologically sensitive manner.

1.5 Unless the client indicates to the contrary, information on the species found to be present on the site will be passed to the county biological records centre to update records held for the area.

Site Description

1.6 The survey area is situated in a predominantly rural location, within the village of Rushton Spencer. The site is immediately bounded to the north east by a watercourse and associated riparian habitat, to the south east by a residential property, to the south west by a large building used as a car sales garage (beyond which is the A523) and to the north west by an improved grassland field.

1.7 The site itself is predominantly poor semi-improved grassland with occasional tall ruderal vegetation. The site is bounded by hedgerows and fence lines.

2.0 Methodology

Desk Study

2.1 In order to compile background information on the site and immediate surroundings Staffordshire Ecological Record (SER) was contacted.

2.2 Information requested was as follows:-

- Records of protected species within the 2 km of the site.
- Records of rare or notable species within the 2 km of the site.
- Non-statutory site designations on or within 2 km of the site.

2.3 Additionally, MAGIC (Multi-Agency Geographic Information for the Countryside, 2010) was used to establish whether any of the following were present:-

- Statutory site designations on or within 2 km of the site.
- Statutory sites designated for bats within 5 km of the site.

Habitat Survey

2.4 The site was visited on the 27th November 2017 and was surveyed in accordance with the Joint Nature Conservation Committee (JNCC) Phase I Habitat Survey methodology (JNCC, 2007). This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential that might warrant further study.

2.5 Target notes (TN) were used to illustrate key features of interest (i.e. over mature trees / hedgerows) or to draw attention to areas considered too small to map or for the purpose of highlighting the location of an invasive plant species. Photographic plates have also been taken to help illustrate key site features.

2.6 The observable higher plant species in each habitat type within the site, and their abundance, were recorded using the DAFOR scale:

D Dominant

A Abundant

F Frequent

O Occasional

R Rare

Fauna

2.7 Habitats present on the site were searched for obvious signs of faunal activity, *e.g.* presence of badger setts, mammal tracks or herpetofauna under refugia. Any buildings and mature trees on site were visually examined from the ground to identify features with the potential to support roosting bats.

Valuation of Ecological Features

2.8 The value of areas of habitat and plant communities has been measured against published criteria where available. Biodiversity Action Plans (BAPs) have been searched to identify whether action has been taken to protect all areas of a particular habitat and to identify current factors causing loss and decline of particular habitats. The presence of injurious and legally controlled weeds has also been taken into account.

2.9 When assigning a level of value to a species, its distribution and status (including a consideration of trends based on available historic records) has been taken into account. Other factors influencing the value of a species are: legal protection, rarity and Species Action Plans (SAPs). Guidance, where it is available, for the identification of populations of sufficient size for them to be considered of national or international importance has also been taken into account.

Survey Constraints

Data Search

2.10 Desk study data provides information on recorded species in the area and can be helpful for targeting survey. However, it is possible that protected species that have not been identified within the data search may occur on or adjacent to the site.

Field survey

2.11 Habitats within 50 m of the site boundary were inspected as far as access allowed. Ponds up to 500m from the site were viewed where there was public/land owner access.

2.12 The survey was undertaken in winter months when not all botanical species are visible. However, the field has been assessed to comprise semi improved grassland based on the following; grasses present were low in diversity and typical of semi improved grassland, herbs present were sparse and lacking in diversity, herbs present were typical of improvement, no key indicator herbs of more species rich grasslands were present.

2.13 Fauna species present may not always leave field signs and in addition, species may take up residence on site subsequent to the survey. If no development takes place within 12 months of this survey report, the findings should be reviewed and may need updating, and a full survey should be repeated within three years

Nomenclature

2.14 The English name only of flora and fauna species is given in the main text of this report; however, scientific names are used for invertebrates where no English name is available. Vascular plants and charophytes follow the nomenclature of The Botanical Society for the British Isles (BSBI) 2007 database (BSBI, 2011) with all other flora and fauna following the Nameserver facility of the National Biodiversity Network Species Dictionary (http://www.nhm.ac.uk/nbn/), which is managed by the Natural History Museum.

3.0 Legislation

3.1 The United Kingdom Biodiversity Action Plan (BAP) 1994 sets out a strategy for implementing the Convention on Biological Diversity, which was signed by the United Kingdom at the Rio de Janeiro Earth Summit in 1992. The published report contains action plans for the United Kingdom's most threatened species and habitat plans for the most vulnerable areas.

3.2 The Local BAP sets out the county's part in the UK biodiversity planning process, in the form of local habitat and species action plans. Local BAPs are intended to focus resources, to conserve and enhance biodiversity, by taking account of national and local priorities.

3.3 Schedule 1 Part 1 of The Wildlife and Countryside Act 1981 (and amendments) – this lists birds protected by special penalties at all times. It prohibits intentional killing/injuring, taking, possessing, disturbing and selling (including parts and derivatives, eggs, nests, *etc.* as applicable) as well as damaging, destroying or disturbing nests in current use or dependent young, *etc.*

3.4 Schedule 5 of The Wildlife and Countryside Act 1981 (and amendments) – this prohibits deliberate killing, injuring, taking, possessing, disturbing and selling (including parts and derivatives) as well as damaging, destroying or obstructing any structure or place of refuge of listed fauna, such as Dormouse, Otter and bat species.

3.5 The Conservation of Habitats and Species Regulations 2010, consolidate all the various amendments made to the Conservation (Natural Habitats, &c.) Regulations 1994, in respect of England and Wales. It is illegal to kill, disturb, destroy eggs, breeding sites or resting places, to pick, collect, take cuttings, uproot or destroy in the wild as well as keep, transport, sell/exchange and offer for sale/exchange species listed.

3.6 The Countryside and Rights of Way Act 2000 – this increases protection given by The Wildlife and Countryside Act 1981 (and amendments). The offence to intentionally damage any structure or place that a wild animal listed in Schedule 5 of the Act uses for shelter or protection or deliberately disturbing any such animal while in such a structure or place is extended so that the offence also covers reckless damage or disturbance. The CRoW Act also places a duty on Ministers and Government Departments to have regard for the purpose of conserving biological diversity in accordance with the Convention on Biological Diversity.

3.7 The Protection of Badgers Act 1992 - this Act makes it illegal to wilfully kill, injure or take any Badger, or attempt to do so and it is an offence to intentionally or recklessly damage, destroy or obstruct access to any part of a Badger sett.

3.8 The Natural Environment and Rural Communities Act, 2006 - as well as creating Natural England, this act gives all public authorities the duty to have regard for conserving biodiversity within the commission of their duties. This includes a duty to restore and enhance as well as maintain biodiversity. The act also strengthens protection for Sites of Special Scientific Interest (SSSI) and makes authorities liable for allowing damage to such sites or their features.

4.0 Results

Desk Study

Sites

4.1 There are no statutory designated sites within 2 km of the site.

4.2 There are twenty non-statutory sites within 2 km of the site.

- Cloudwood End (north-east of) – Local wildlife Site (LWS)
- Brook Farm (south of) - LWS
- Dingle Brook Grassland - LWS
- Dingle Lane (north of the Dingle) - LWS
- Lee Wood – Retained Grade 2 Site of Biological Interest (SBI)
- Oulton Wood - Retained Grade 2 SBI
- Rushton Bank (west of) - Retained Grade 1 SBI
- Ravensclough Wood - LWS
- Beat Lane Hedges - LWS
- Rudyard Dismantled Railway - LWS
- Lane Ends Farm (north of) - LWS
- Hug Bridge - LWS
- Sugar Street Fields - LWS
- Fadge Clough (north of) - LWS
- Thompson (fields north of) - LWS
- Flashcroft Coppice - LWS
- Primrose Hill - LWS
- Heaton (south of) – Retained BAS
- Dane Feeder Canal – Retained BAS
- Meal-ark Clough - LWS

Lane End Farms (North of)

4.3 This LWS is located approximately 25m to the north of the proposed development site, over a watercourse. The site is a field which supports species-rich grassland with areas of gorse (*Ulex europaeus*) scrub. Most of the species diversity present is located on the steep slopes of the field.

4.4 As the LWS is located over a watercourse, and that its key features are those of flora, no direct impacts are envisaged on this habitat during the sites redevelopment. However, care will need to be taken to ensure there are no indirect impacts e.g. pollution during and post development.

Sugar Street Fields

4.5 This LWS is located approximately 245m to the east of the proposed development site. The site is of two fields composed of semi-improved neutral grassland which exhibit the UK BAP priority habitat Lowland Meadow. They are very species-rich and are composed of a number of species of interest.

4.6 Given the distance away from the surveyed site, and that its key features are those of flora, it is considered unlikely that the proposed redevelopment of the site will have an adverse impact on this LWS.

Rudyard Dismantled Railway

4.7 This LWS is located approximately 180m to the west. The site is of a length of a dismantled railway partly running along the shore of Rudyard Reservoir. The main adjacent habitat is broad-leaved woodland, together with dense scrub and scattered trees/parkland. There is an area of unimproved neutral grassland.

4.8 Given the distance away from the surveyed site, over a busy main road, and that its key features are those of flora, it is considered unlikely that the proposed redevelopment of the site will have an adverse impact on this LWS.

4.9 The remainder of the non statutory sites are well removed and isolated from the site by areas of residential housing, roads and watercourses therefore given the relative small size of the proposal site, impacts are considered to be of negligible value with no adverse impacts anticipated.

Species

4.10 SER provided the following records for protected and notable species within 2 km of the site boundary:

Bats – three species of bat recorded within the search area, including four known roosts. All bat species are European and UK protected.

Amphibian – one European and UK protected species of amphibian recorded, great crested newt (*Triturus cristatus*), and one species of Principle Concern, common toad (*Bufo bufo*).

Birds – 16 species of bird recorded all either European or UK protected and 52 species of Principle Concern or Rare

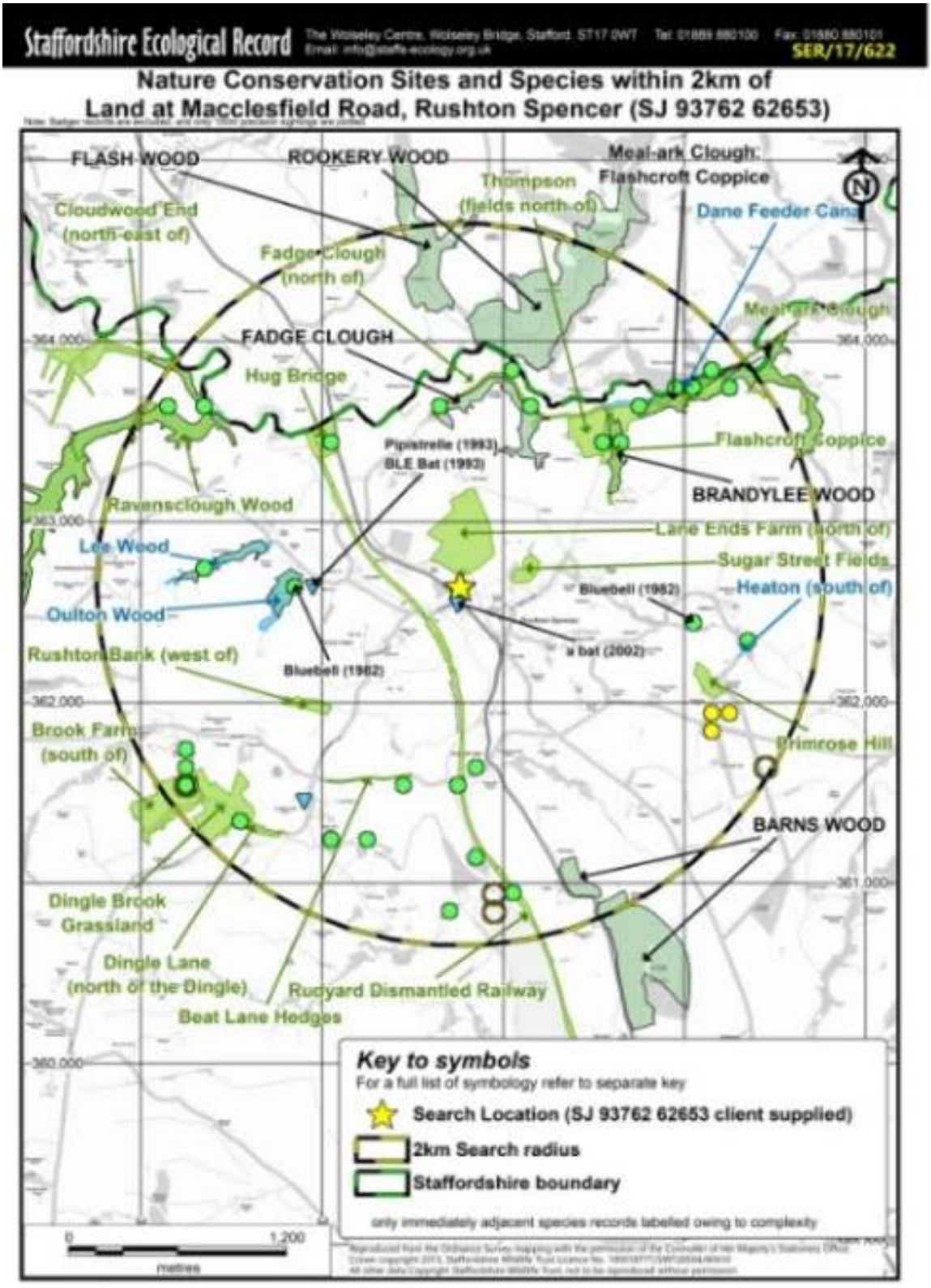
Mammal – one UK protected species of mammal, Badger (*Meles meles*), recorded within the search area and three species of Principle Concern or Rare.

Flowering plants – one UK protected plant species, bluebell *(Hyacinthoides non-scripta*), and 25 species either Rare or of Principle Concern

Invertebrates – twelve species of Principle Concern or Rare.

4.11 No notable or protected reptile species were returned during the data search.

Figure 1: Sites and Protected Species Plan



Habitats

4.12 The following habitats or vegetation types were identified on or immediately offsite during the course of the habitat survey;

- Poor semi improved grassland
- Tall ruderal
- Hedgerow with occasional trees
- Scrub
- Watercourse
- Building

4.13 Supporting photographic plates are shown in Section 8.0.

Poor semi improved grassland (plates 1 and 2)

4.14 The site is dominated by poor semi improved grassland with species recorded including; dominant perennial ryegrass (*Lolium perenne*), occasional cocks foot (*Dactylis glometra*), common bent (*Agrostis capillaris*), and occasional crested dog's tail (*Cynosurus cristatus*). Herbaceous species recorded onsite include; clover (*Trifolium* spp.), buttercup (*Ranunculus spp.*), dandelion (*Taraxacum officinale*), ribwort plantain (*Plantago lanceolata*) and dock (*Rumex obtusifolius*). The grassland is mostly unmanaged creating a rough, often dense, tussocky sward. To the southern part of the site, the ground is occasionally waterlogged with *Juncus* sp. present

Tall ruderal (plate 3)

4.15 Located along the southern boundary, alongside the building are areas of tall ruderal with dominant species recorded including common nettle (*Urtica dioica*), rosebay willowherb (*Chamerion angustifolium*) and occasional bramble (*Rubus fruticosus*).

Hedgerows with occasional trees (plate 4)

4.16 The north and east boundary comprise of hawthorn (*Crataegus monogyna*) and holly (*Ilex aquifolium*) dominated hedgerows, with occasional tree species including hazel (*Corylus avellana*) and ash (*Fraxinus excelsior*). The hedgerows are managed and intact.

Watercourse (plates 5 and 6)

4.17 Located offsite to the north, approximately 10m from the site boundary is a watercourse. The course flows easterly is a conduit of the River Dane which is located just over 1km away from the site.

4.18 The watercourse is slow flowing, approximately 5m wide and of unknown depth. The embankments are steep in places and densely vegetated with scrub and ruderal.

4.19 Parts of the watercourse, particularly to the east and west of the site, are very slow flowing and congested with vegetation. The surface of the water in these sections are covered in a layer of duckweed (plate 6).

Scrub

4.20 Beyond the north bounding hedgerow is a narrow linear area of scrub habitat which follows the watercourse. This habitat feature is complex in its vegetative structure with occasional mature trees and a predominantly dense understory dominated by bramble. Tree/shrub species recorded including elder (*Sambucus nigra*), holly, hawthorn, willow (*Salix* spp.), oak (*Quercus robur*) and alder (*Alnus glutinosa*). In more open areas, ruderal species including rosebay willowherb, nettle (*Urtica dioica*), hogweed (*Heracleum sphondylium*).

Building (plate 7)

4.21 Located offsite, to the south is a large single storey building which forms part of the commercial car sales. This building was inspected for its potential to support roosting bats with results shown in Table 1.

Fauna

Bats

4.22 SER provided several records of bat species within 2 km of the site. A total of four known roosts were returned comprising one brown long-eared roost (*Plecotus auritus*), two common pipistrelle (*Pipistrellus pipistrellus*) and one *Myotis* spp. All four roosts are located 1.4km away from the proposed development site.

4.23 The data search also shows records of common pipistrelle, brown long-eared and an unidentified bat the latter of which was recorded 103m from the site boundary in 2002.

4.24 There are no buildings located within the site boundary. Located offsite immediately to the south is a large single storey building. The building was assessed in terms of its potential to support roosting bats (given its close proximity to the proposed development site) with results shown in Table 1. All trees bounding the site, including the trees located within the hedgerow were assessed to be of negligible value for supporting roosting bats with no potential roosting features identified.

Table 1: Building Inspection Results

Building	External description	Internal description	Roost classification
B1	Single storey brick building with a corrugated metal roof. The southern elevation has a number of metal roller style doors. Located on the north elevation is a single storey extension constructed out of corrugated metal and is open aspect. The brickwork is on a good condition with no cracks or crevices noted, likewise the gable ends of the building are partly lined with corrugated metal which appears intact. There are	Internally the building is used for vehicle repairs/storage. No loft space is present and the internal rooms are open to the roof which is lined with a wooden material thin lining with sunlight's exposed. The lean-to is used for storage and no wall or roof lining is present. No suitable roosting features were identified internally and no evidence of bat utilisation recorded.	Negligible

	wooden fascia boards along the north and south elevation which were inspected with torchlight and no suitable roosting features recorded.		

4.25 None of the trees located within the hedgerows, or adjacent B1, were identified to hold potential for supporting roosting bats. The site as a whole offers good foraging habitat for a range of bat species. The site is connected to habitats within the wider area via a range of hedgerows and tree lines including the riparian corridor along the conduit to the north of the site.

Badgers

4.26 SER provided records of badger within 2 km of the site which given its rural locality is to be expected.

4.27 No badger setts were recorded on or immediately adjacent to the site. Badger foraging and commuting evidence was noted across the site with a number of well worn mammal paths particularly along the north part of the semi improved grassland field. Located offsite, two latrines were recorded, both in the scrub habitat to the north, alongside the north side of the hedgerow. Occasional gaps/paths beneath the hedgerow were noted although these were not well used. Within the north west corner of the site a well worn path was noted beneath the fence line, heading into the scrub area and adjacent arable field.

Dormice

4.28 There are no records of Dormice occurring within 2 km of the site and given the dominant habitats present onsite, it is considered that dormice are likely to be absent from the site.

Water Voles and Otters

4.29 There are no records of water voles (*Arvicola amphibious*) or Otters (*Lutra lutra*) occurring within 2 km of the site.

4.30 There are no watercourses/water bodies present onsite. The conduit to the north of the site is located approximately 10m away from the boundary. Given the slow flowing nature of the watercourse, it is unlikely to support otter

4.31 With regards for water voles, water voles prefer sites with wide swathes of riparian vegetation, both growing from the banks and from the water. This serves as both their food and shelter. Water voles also prefer slow-flowing, relatively deep (over 1 m depth) water courses (Strachan & Moorhouse, 2006). The section of the watercourse adjacent to the site was searched for evidence of water voles such as burrows, lawns, feeding remains and latrines, and none was discovered. This area lacks suitable embankment vegetation due to the high shade density although further along stream the habitat does become more suitable. The proposed redevelopment of the site is unlikely to have a direct impact on the water course and given the lack of evidence of this species within the area, this species is not considered to be a constraint to any proposed site works.

Other mammals

4.32 SER returned records of hedgehog (*Erinaceus europaeus*), brown hare (*Lepus europaeus*) and harvest mice (*Micromys minutes*) within the search area. The hedgehog records are historic with the

exception of a 2013 record although it is located just over 2km from the site boundary. Nevertheless, the hedgerows onsite and adjacent scrub offer suitable foraging and commuting for this species.

4.33 Forty one records of brown hare were returned with the closest to the site being 151m away in 2010. The grassland onsite would be suitable for this species although given its relative isolated location (with a main road to the south and watercourse to the north) and lack of sightings onsite during the survey, it is considered that brown hares are likely to be absent.

4.34 A single harvest mouse record was returned for a nest discovered in 2005 located just over 2km away. This species requires areas of tall grass and again due to the relatively isolated nature of the site, it is considered unlikely that this species would be present.

4.35 The tussocky nature of the sward onsite provides plenty of cover for a good number of small mammals particularly shrews and voles. A deceased vole was recorded just offsite and within the grassland a large number of small mammal runs and burrows were recorded.

Birds

4.36 A number of bird species were returned during the data search by SER, including the following protected species; common kingfisher, greylag goose, common goldeneye, ruff, little plover, little egret, peregrine falcon, Eurasian hobby, brambling, black-tailed godwit, red kite, common tern, common greenshank, green sandpiper, redwing, fieldfare and barn owl. The majority of these records are from sightings at Rudyard Lake located 1.6km to the south.

4.37 One of the fieldfare records is located 302m away and dates from 2002, this overwintering species forages on hedgerows including hawthorn so may be attracted to the site boundaries.

4.38 The barn owl records, dating from 2008 and 2009, are for sightings located over 1.7km away from the site. It is likely that this nocturnal species is under reported and given the tussocky habitats onsite, which support a high population of small mammals it is possible that this species is utilising the site for foraging. This species is also a priority species within Staffordshire, with a Biodiversity Action Plan in place.

4.39 The following were all either observed or heard on site during the survey: house sparrow (*Passer domesticus*), wren (*Troglodytes troglodytes*) and robin (*Erithacus rubecula*).

Reptiles

4.40 SER did not provide any records of reptiles. The tussocky grassland adjacent to a watercourse and scrub habitat is of suitability for grass snake (*Natrix natrix*) in particular. This species could commute along the watercourse with the grassland offering suitable basking and foraging opportunities. The site is well connected to the wider landscape via the watercourse and subsequent hedgerows and tree lines, all features which have the potential to facilitate commuting reptile species. Grass snakes are a priority species within Staffordshire, with a Biodiversity Action Plan in place.

Amphibians

4.41 SER returned four historic records of great crested newts within the search area (most recent record 1988).

4.42 There are four ponds located within 500m of the site boundary (Figure 2). Pond 1 is located 175m to the north east, over a watercourse. This pond was subject to a Habitat Suitability Index (HSI) assessment as shown in Table 2. Ponds 2, 3 and 4 were not HSI assessed due to lack of access.

4.43 Pond 1 (plate 8) is located within a semi improved grassland field which forms part of a residential garden area. The pond was viewed from a public footpath. The field is narrow and bounded on the east side by woodland/scrub. The pond is covered in a layer of duckweed with some aquatic vegetation noted included *Iris* spp. The field in which the pond lies appears damp and water logged at the time of the survey. The pond appears well established and not prone to drying. No evidence of water fowl were noted. The habitats around the pond are of good terrestrial habitat for great crested newts.

Table 2: Habitat Suitability Index assessment results

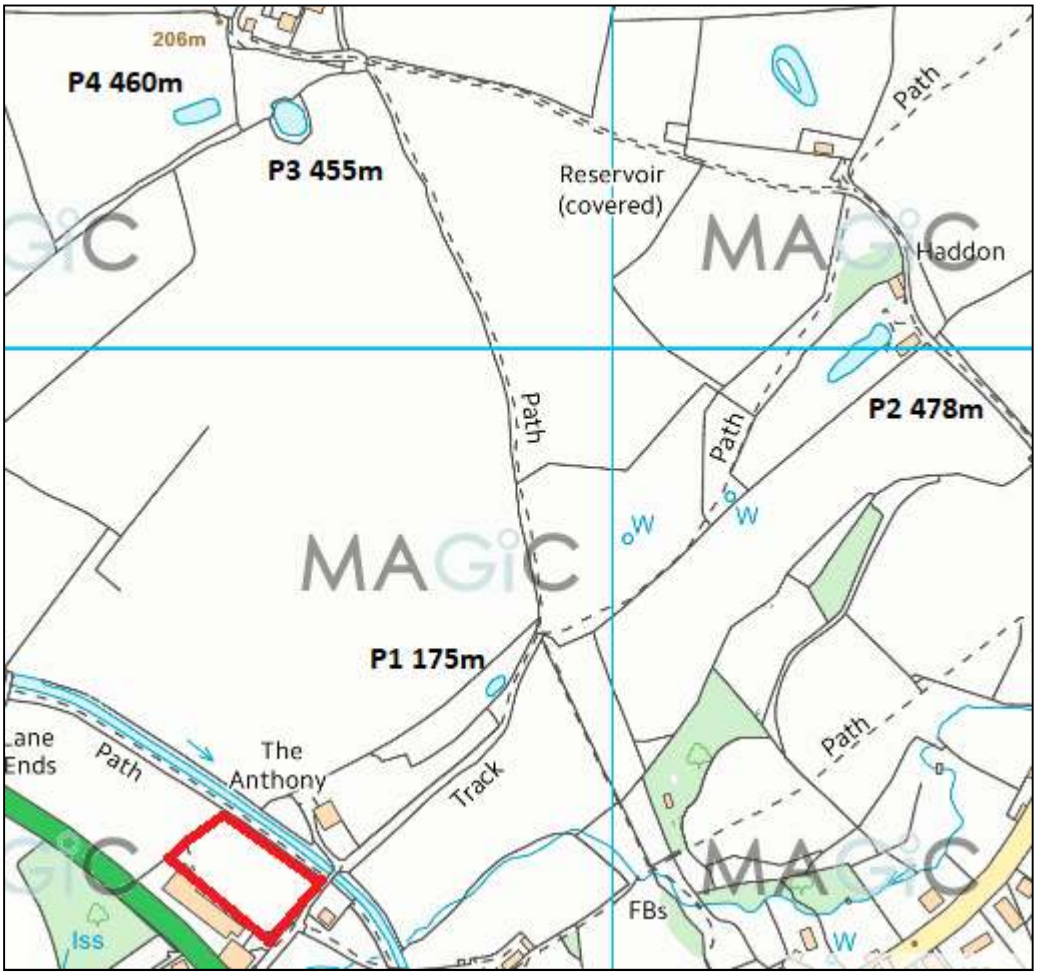
Date HSI assessment undertaken	27/11/17
Pond ref	Pond 1
SI1 - Location	1
SI2 - Pond area	0.2
SI3 - Pond drying	0.9
SI4 - Water quality	0.67
SI4 - Shade	0.8
SI6 - Fowl	0.67
SI7 - Fish	0.67
SI8 - Ponds	0.9
SI9 - Terr'l habitat	1
SI10 - Macrophytes	0.8
HSI	0.71 **(Good)**

4.44 The HSI was conducted on the 27th November 2017, which is considered a sub optimal time for conducting assessment of this type. Elements of the HSI, in particular the water quality and macrophytes have been assumed. The pond was also viewed from a distance (public footpath approximately 5m to the east of the pond) as access had not been obtained. The results from the HSI assessment concluded that P1 is of 'good' value for supporting great crested newts.

4.45 The terrestrial habitats present onsite (tussocky grassland, hedgerows) are considered suitable for great crested newt utilisation, offering foraging/commuting opportunities, with adjacent scrub habitats offering potential hibernation opportunities. The watercourse to the north of the site is slow flowing and approximately 5m wide. Sections of the watercourse, particularly up and down stream from the site, are congested with vegetation and covered in a layer of duckweed (plate 6) and therefore not considered to be a barrier of dispersal for GCN.

4.46 With regards for Ponds 2, 3 and 4, as they are located between 450m and 500m away from the site (Figure 2), they are not considered to be a constraint to the proposed works. A GCN Rapid Rask Assessment of the ponds was carried out (taken from GCN Method Statement WML-A14-2) concluding that an offence on the species is considered highly unlikely. The risk assessment for P1 details that an offence is considered likely. A copy of the completed Rapid Risk Assessment is shown in section 9.0.

Figure 2: Pond location Plan (site boundary indicated in red)



Invertebrates

4.47 SER did not provide any records of protected invertebrate species. The data search returned a number of historic notable species records and two non historic; White-letter hairstreak (*Satyrium w-album*) and Honey Bee (*Apis mellifera*) both records are located over 1.5km away from the site boundary. The White-letter hairstreak favours elm (*Ulmus* spp.) trees so is unlikely to be present. The Honey Bee is more widespread and favours a range of habitats including grassland.

4.48 The habitats on site are generally common and do not provide much potential for rare invertebrate species although they are expected to support a number of more common species.

5.0 Development Constraints and Recommendations

5.1 The site is the subject of a possible planning application for a residential development. Ecological constraints and recommendations with regard to any development are discussed below.

Designated Sites

5.2 No statutory sites are present within 2km of the site. The twenty non statutory sites with one site, Lane End farms (north of) located within close proximity. This Local wildlife Site is 25m to the north of the site boundary and located over a watercourse. Its key ecological features are those of flora resulting in no direct impacts been envisaged on this habitat during the sites redevelopment. However, care will need to be taken to ensure there are no indirect impacts e.g. pollution during and post development.

Habitats

5.3 Botanically, the site itself does not appear to have any rare species and it is not particularly diverse.

Potential Impacts of Works without Mitigation

5.4 The proposed site works are currently in the design phase, therefore there is no development plan for the site; however, if residential development is undertaken in the future, potential impacts are likely to include the following;

Bats

5.5 Loss or severance of hedgerows which may affect bat commuting routes. Loss of grassland may result in the reduction of bat foraging opportunities. An increase in general light levels could also affect bat foraging and commuting within the area.

Badgers

5.6 Loss of foraging/commuting habitat.

Nesting Birds

5.7 Loss of the hedgerows will undoubtedly have a negative impact on breeding and foraging birds, causing a decrease in nesting sites and foraging resources. Site clearance may directly harm nesting birds if carried out during the breeding season (March to August inclusive).

Barn owl

5.8 The tussocky grassland is suitable for ban owl foraging and should this species be utilising the site, its redevelopment may result in loss of foraging opportunities.

Reptiles

5.9 The site has potential to support reptiles in particular, grass snakes. The sites redevelopment could result in the loss of foraging/commuting habitat. Site clearance may directly kill/injure reptiles.

Great crested newts

5.10 The site has potential to support terrestrial GCN (and other common amphibians; toads, frogs, news). The sites redevelopment could result in the loss of foraging/commuting habitat for GCN and site clearance and development works may directly kill/injure GCN.

Watercourse

5.11 Development works onsite could result in the accidental pollution/harm to the adjacent watercourse which is a conduit of the River Dane.

Recommendations

5.12 The following are general recommendations that are likely to be a minimum requirement for any future development of the site. To prevent potential delays, it would be prudent to undertake the recommended surveys well in advance of any master-planning and certainly before any planning application is made.

Bats

5.13 The habitats suitable for foraging bats are along the site boundaries, within the semi improved grassland and along adjacent scrub and watercourse habitats. The loss of the grassland and potential foraging will be offsetted with the new residential development which will include gardens, which can be used by foraging bats.

5.14 If the hedgerows are to be severed or removed, or likely to be affected by an increase in light spill, there may be some impacts on commuting routes, particularly if there are roosts in existing houses nearby.

5.15 It is recommend that bounding hedgerows, are retained and that a lighting design plan around the new development is considered at an early stage. It is recommended that the use of artificial lighting follows the protocols outlined in the Institute for Lighting Engineers document “Guidance for the Reduction of Obtrusive Lighting” (2005) and BCT’s “Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting” (2014) to minimise disturbance and light-spill onto the boundaries.

5.16 It is also recommended that bat boxes are incorporated into the development. Bat boxes can either be integrated into the walls or placed externally and it is recommended that at least two boxes are installed. Boxes suitable for the site include; Schwegler 1F Bat Tube (designed to be installed on the external walls of buildings, either flush or beneath a rendered surface), Schwegler 1FQ (external installation), Schwegler 1WI (designed to be set into an external wall or incorporated into the masonry and then rendered flush with the surface so that only the entrance is visible). See https://www.nhbs.com/equipment/bat-boxes for details on bat boxes.

Badgers

5.17 Although no badger setts were observed on or immediately offsite at the time of the survey, activity patterns of this species can change over a short time. The scrub area to the north of the site is of particular high value for badgers. It is therefore recommended that an update badger survey is undertaken prior to the commencement of works. Badger surveys can be undertaken at any time of year and to allow sufficient time to obtain a Natural England badger mitigation licence (should a sett be discovered on or immediately offsite) the survey should be scheduled three months prior to the commencement of works.

Birds

5.18 With regards for nesting birds, the hedgerows offer suitable nesting opportunities and it is recommended that they are retained. Any de-vegetation/site clearance works should be done outside of the bird breeding season which runs March-August inclusive. Where this is not possible and works are to be scheduled during the bird breeding season, a nesting bird check should be carried out by a competent surveyor. Should active nests be present, an exclusion zone will need to be established around the nest(s) and works within this area will need to be avoided until the young have fledged.

5.19 It would be of conservation benefit to install a variety of nesting boxes for different bird species within the site in future (buildings and trees where suitable) to enhance the site for nesting birds and encourage bird diversity. Information on bird nesting boxes can be found at http://www.rspb.org.uk/advice/helpingbirds/nestboxes/.

Barn owl

5.20 With regards for barn owl, the redevelopment of the site could result in the loss of barn owl foraging opportunities. However, the site is relatively small and its loss, should barn owls be utilising the site, it not considered to be of detriment to the local barn owl population, especially given the rural locality of the site. It is however recommended that to help the local barn owl population, that a barn owl nesting box is incorporated into the redevelopment or on an adjacent building or tree.

5.21 Barn owl boxes and installation information can be sought from https://www.barnowltrust.org.uk/barn-owl-nestbox/

Reptiles

5.22 The site has the potential to support reptile species, in particular grass snake. It is therefore recommended that reptile presence/absence surveys are undertaken.

5.23 A reptile survey of the whole site should be carried out prior to development. Reptile surveys can be carried out between April and September (April, May and September being the optimal survey months). Standard survey methodology involves installing artificial refugia (0.5 m squares of roofing felt) throughout the habitat, which are used by basking reptiles if they are present. Seven checks of the refugia are carried out to confirm presence or absence.

5.24 If reptiles are present, mitigation will involve protecting individuals from harm during the development. Depending on the size of population present and area of habitat loss, this may require catching and translocating reptiles to a suitable receptor site prior to groundworks and/or destructive searches during groundworks.

Great crested newts

5.25 The site has the potential to support terrestrial GCN. There are no waterbodies present onsite. Four ponds are located within 500m of the site boundary (Figure 2) with P1 located 175m to the north east. A HSI of P1 was conducted and it was concluded to be of ‘good’ value for supporting GCN.

5.26 HSI assessments were not conducted on P2, P3 and P4 due to lack of access at the time of the survey. However, based on their distance away from the site boundary (between 450m and 500m) and due to the size of the surveyed site, an offence on the legal protection of GCN is considered

highly unlikely (as shown within the Rapid Risk Assessment section 9.0) therefore no further surveys are required on these ponds.

5.27 GCN presence/absence surveys will need to be carried out on P1 as the sites redevelopment could result in the loss of terrestrial GCN habitat. P1 is located 175m from the surveyed site, with good habitat connectivity. Four repeat surveys of the pond should be undertaken between mid-March and mid-June, with at least two of these in mid-April and mid-May. If GCN are confirmed to be absent (after four visits), no further surveys are required, and works can commence without mitigation.

5.28 If great crested newts are found to be present, a further two surveys are required to estimate population size. Standard survey methodology involves three different methods, preferably torchlight counts, bottle trapping and an egg search.

5.29 Once the population size has been estimated (small, medium or large), a European Protected Species (EPS) licence from Natural England may be required to allow the development to proceed. The EPS licence sets out a Method Statement including appropriate mitigation to ensure that individual newts are not harmed and to mitigate for any loss of habitat. The EPS licence application process can take up to ten weeks.

Watercourse

5.30 As development works are to take place within close proximity of a watercourse (located circa 10m away from the site boundary), precautions should be in place to prevent accidental damage/pollution to the watercourse;

- Suitable and appropriate measures or precautions should be taken to avoid any issues relating to fuel spillage. This could involve the use of spill kits (absorbent materials) on site; and

- Good site practice should be employed to ensure that fuels on site are stored within a locked, sealed and bunded container. The refuelling of vehicles should occur in one location, and a drip tray should always be used.

6.0 References

Anon (1995) *Guidelines for Baseline Ecological Assessment*. Institute of Environmental Assessment. Chapman & Hall.

Anon (1995) *The UK Biodiversity Action Plan*. Joint Nature Conservation Committee, Peterborough.

Anon (1999) *Advice Sheet 10: Reptile Survey*. Froglife, Peterborough.

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Rose, F. (1991). *The Wild Flower Key*. Frederick Warne, London.

Websites used:

Protected Sites: www.magic.gov.uk

Protected Species: http://data.nbn.org.uk/

Rotherham Biodiversity Action Plan:
http://www.rotherham.gov.uk/info/1009/wildlife/946/biodiversity_action_plan/1

UKBAP: http://jncc.defra.gov.uk/page-5155

www.rspb.org.uk

www.streetmap.co.uk

www.maps.google.co.uk

www.bing.com/maps

Web addresses for access to full UK legislation and policy text:

Conservation (Natural Habitats &c.) Regulations 1994:
http://www.opsi.gov.uk/si/si1994/uksi_19942716_en_1

Conservation (Natural Habitats &c.) (Amendment) Regulations 2007:

http://www.opsi.gov.uk/si/si2007/uksi_20071843_en_1

Conservation (Natural Habitats &c.) (Amendment) Regulations 2009:
http://www.legislation.gov.uk/uksi/2009/6/pdfs/uksi_20090006_en.pdf

Habitats Directive:
http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

Wildlife and Countryside Act 1981:
http://www.legislation.gov.uk/ukpga/1981/69

Countryside and Rights of Way Act 2000:
http://www.legislation.gov.uk/ukpga/2000/37/contents

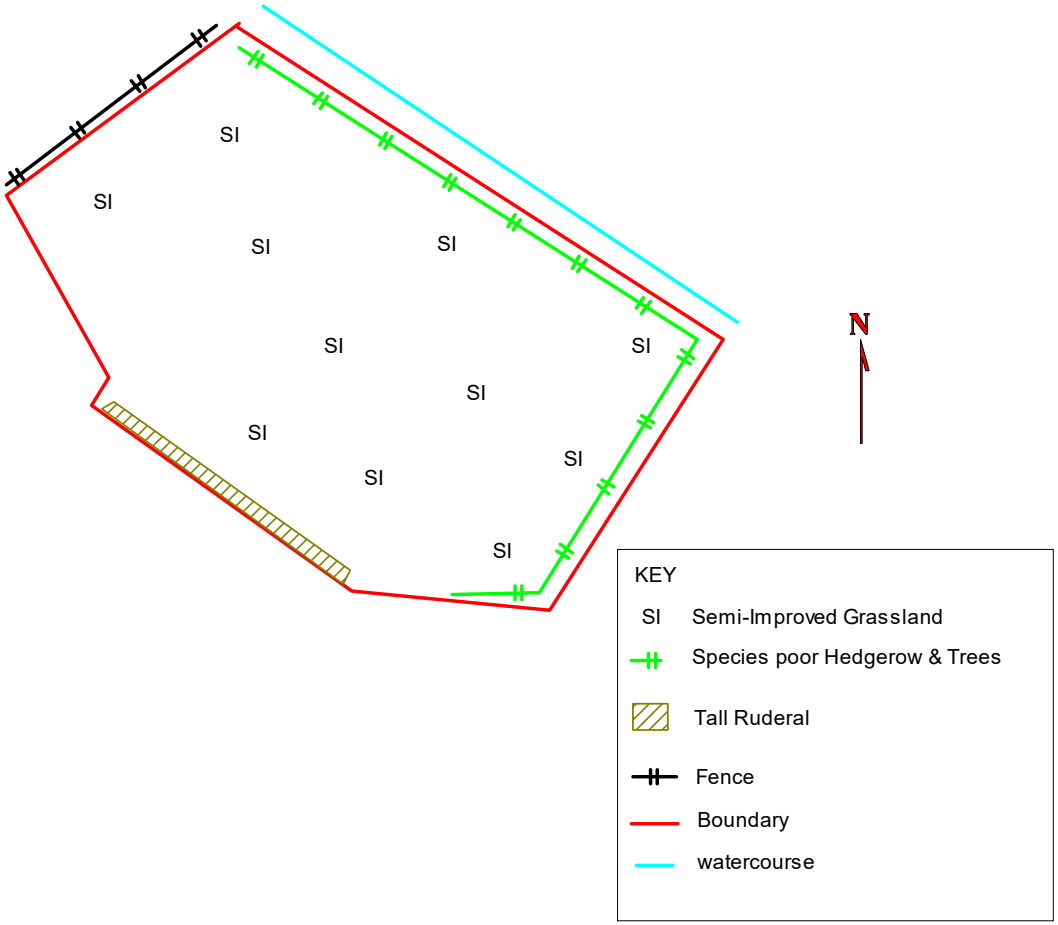
Protection of Badgers Act 1992:
http://www.opsi.gov.uk/ACTS/acts1992/ukpga_19920051_en_1

Natural Environment and Rural Communities Act 2006:
http://www.legislation.gov.uk/ukpga/2006/16/contents

National Planning Policy Framework 2012:
http://www.communities.gov.uk/publications/planningandbuilding/nppf

7.0 Plans

Phase I Habitat Map



8.0 Photographic Plates

Plate 1: View of the site looking north east, showing the semi improved grassland



Plate 2: View of the site looking south east, showing the semi improved grassland and B1



Plate 3: Tall ruderal located along the north side of B1



Plate 4: North side hedgerow



Plate 5: Watercourse adjacent to the site



Plate 6: Section of watercourse to the west of the site



Plate 7: North east elevation of B1



Plate 8: Pond 1



9.0 GCN Rapid Risk Assessment

Ponds P2 - 478m, P3 - 455m, P4 - 460m

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	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)	No effect	0
Land >250m from any breeding pond(s)	0.5 - 1 ha lost or damaged	0.03
Individual great crested newts	No effect	0
	Maximum:	0.03
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Pond 1
175 m

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	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)	0.5 - 1 ha lost or damaged	0.3
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.3
Rapid risk assessment result:	AMBER: OFFENCE LIKELY	

Guidance on risk assessment result categories
"Green: offence highly unlikely" indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see **Non-licensed avoidance measures tool**) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest.
"Amber: offence likely" indicates that the development activities are of such a type, scale and location

that an offence is likely. In this case, the best option is to redesign the development (location, layout, methods, duration or timing; see **Non-licensed avoidance measures tool**) so that the effects are minimised. You can do this and then re-run the risk assessment to test whether the result changes, or preferably run your own detailed site-specific assessment. Bear in mind that this generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details, as mentioned in caveats above. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined. Once you have amended the scheme you will need to decide if a licence is required; this should be done if on balance you believe an offence is reasonably likely.
"Red: offence highly likely" indicates that the development activities are of such a type, scale and location that an offence is highly likely. In this case, you should attempt to re-design the development location, layout, timing, methods or duration in order to avoid impacts (see **Non-licensed avoidance measures tool**), and re-run the risk assessment. You may also wish to run a site-specific risk assessment to check that this is a valid conclusion. If you cannot avoid the offences, then a licence should be applied for.