absolute ecology LLP wildlife surveys

Preliminary Ecological Appraisal

Land off Roughbirchworth lane,

Oxspring,

Penistone,

Sheffield,

S36 8YE

February 2021

Author: Helen Staton

Notice to readers

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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.

Absolute Ecology cannot take responsibility where Government, national bodies or industry subsequently modify standards.

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Non-technical summary

Absolute Ecology LLP was commissioned to undertake a Preliminary Ecological Appraisal of a site known as Land off Roughbirchworth Lane, Oxspring, Penistone, Sheffield, S36 8YE. Grid ref: SE27160208

The Preliminary Ecological Appraisal was undertaken on 16th February 2021 by Helen Staton (Hons), ACIEEM, an experienced and licensed ecologist who is an Associate member of the Chartered Institute of Ecology & Environmental Management (ACIEEM). Helen has been in the Ecological sector for approximately 10 years conducting Preliminary Ecological Assessments which including botanical assessments for development projects and non-developments projects habitats surveys have included grassland, woodlands and aquatic assessments

The report follows on from the previous Ecological report conducted by Smeeden Foreman on June 2020.

The site is the subject of a planning application for the construction of seven residential dwellings with associated gardens and parking.

The survey area is situated in a rural location on the eastern edge of the village of Oxspring. The site is immediately bounded by the River Don to the north, a main road to the east (Bower Hill), a minor road to the south (Roughbirchworth Lane) and woodland to the west. The site itself is dominated by poor semi-improved grassland with a line of scattered trees.

There are no statutory sites or non-statutory sites located within 1km of the site boundary.

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

- **River Don** – a 5m buffer should be left between the construction area and the River Don to provide protection during and post development. Precautionary Working Measures should be in place during works to avoid accidental damage/pollution to the watercourse.
- **Bats** – three trees were assessed to be of value for supporting roosting bats (T1-T3). Under current proposals these will be retained. No hedgerow or any other linear feature will be removed or fragmented therefore lighting design plan should be incorporated into the works such as dim lights to avoid light spill on the onsite trees and adjacent River Don and woodland and bat boxes to be incorporated.
- **Badger** – No badger setts were recorded onsite, or adjacent to the site, at the time of the survey. As activity patterns of this species can change over a short period of time, an update badger survey should be conducted prior to the start of any onsite vegetation clearance/ground works.
- **Otter and water vole -** An otter and water vole scoping survey should be carried out on the adjacent River Don. This survey should be conducted during spring months and during/following suitable weather conditions.
- **Nesting birds** - With regards for nesting birds, habitats onsite hold high potential for nesting birds. Any preconstruction de-vegetation and site clearance should be carried out avoiding 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.

- **Hedgehog -** Habitats onsite hold potential for supporting hedgehogs (*Erinaceus europaeus*). Any site clearance should be done under a precautionary method statement to avoid harm to any individuals residing onsite.

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1.0 Introduction

Background

1.1 Absolute Ecology LLP was commissioned to undertake a Preliminary Ecological Appraisal of a site known as Land off Roughbirchworth Lane, Oxspring, Penistone, Sheffield, S36 8YE. Grid ref: SE27160208.

1.2 The Assessment was undertaken on the 16th February 2021 by Helen Staton (Hons) an experienced and licensed ecologist who is an Associate member of the Chartered Institute of Ecology & Environmental Management (ACIEEM).

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 The site is the subject of a planning application for the construction of seven residential properties with associated gardens and parking.

1.6 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

1.7 The survey area is situated in a rural location on the eastern edge of the village of Oxspring. The site is immediately bounded on the north side by the River Don, a main road to the east (Bower Hill), a minor road to the south (Roughbirchworth Lane) and woodland to the west.

1.8 Within the wider landscape are a number of water courses/features, farmland, hedgerows, woodland. Located immediately adjacent to the north boundary of the site, and to the west is a strip of deciduous woodland which is a UK Priority Habitat. The site has good connectivity (via the river and adjacent woodland) to the wider area.

Figure 1: Aerial view of the site with red line boundary indicating ecological survey area.



2.0 Methodology

Desk Study

2.1 In order to compile background information on the site and immediate surroundings Sheffield Biological Records Centre (SBRC) and South Yorkshire Bat Group (SYBG) were contacted.

2.2 Information requested was as follows:-

- Records of protected species within the 1 km of the site.
- Records of rare or notable species within the 1 km of the site.
- Non-statutory site designations on or within 1 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 2 km of the site.

Habitat Survey

2.4 The site was visited on the 16th February 2021 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 during the winter months when not all botanical species are visible. However, given the sites dominant habitat type of species poor improved grassland, the species recorded at the time of the survey are considered representative of the habitat type present and it is considered unlikely that the time of year which the survey was conducted, would act as a constraint to the results.

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 – Map of sites and species shown within Appendix 1

Sites

4.1 There are no statutory or non-statutory designated sites within 1 km of the site.

Species

4.2 SBRC and SYBG provided the following records for protected and notable species within 1km of the site boundary (individual records discussed in detail within the Fauna section of the report):

- **Bats** – eight confirmed species of bat recorded within the search area. All bat species are European and UK protected.
- **Amphibian** – One European and UK protected species of amphibian were returned by SBRC; great crested newt *(Triturus cristatus)*.
- **Birds** – four UK protected bird species returned, seven UKBAP species and fifteen red and amber listed bird species returned within the 1km search area.
- **Mammal** – two UK protected species of mammal returned; European badger *(Meles meles),* European Water Vole *(Arvicola amphibius)* and two UKBAP species of mammal; European hedgehog *(Erinaceus europaeus)* and Brown hare (*Lepus europaeus*).
- **Reptiles** – No reptile records returned.
- **Flowering plants** – one UK protected plant species, bluebell *(Hyacinthoides non-scripta*) and one UKBAP species; Cornflower (*Centaurea cyanus*).
- **Invertebrates** – one UK protected invertebrate species; white-letter hairstreak (Satyrium w-album) and three UKBAP species returned; wall butterfly (*Lasiommata megera*), cinnabar moth (*Tyria jacobaeae*) and wall butterfly (*Lasiommata megera*).

Habitats

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

- A3 - Scattered trees
- B6 - Poor semi-improved grassland
- G2 - River
- J2.5 – Dry stone wall

4.4 Supporting photographic plates are shown in Section 8.0.

A3 – Scattered trees

4.1 Located on the sites eastern boundary are five scatted trees comprising ash (*Fraxinus excelsior)*, hawthorn (*Crataegus monogyna)*, alder (*Alnus glutinosa)* and willow (*Salix* sp.).

4.2 Located on the southern boundary, alongside the River Don are a number of alder, sycamore (*Acer pseudoplatanus*) and willow trees which vary in age from young to semi-mature.

4.3 All trees were assessed in terms of their bat roosting potential as shown within the fauna section of the report.

B6 - Poor semi-improved grassland

4.4 The site comprises of species poor semi-improved grassland which is characterised by perennial ryegrass (*Lolium perrenne*), cocks' foot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*) and false oat grass (*Arrhenatherum elatius*). Herbaceous species recorded onsite include; broad leaved dock (*Rumex obtusifolius*), cleavers (*Galium aparine*), white clover (*Trifolium repens*), creeping buttercup (*Ranunculus repens*), creeping thistle (*Cirsium arvense*), common nettle (*Urtica dioica*), common hogweed (*Heracleum sphondylium*), broadleaved willowherb (*Epilobium montanum*), common sorrel (*Rumex acetosa*) and cranesbill sp. (*Geranium sp*.).

4.5 The grass at the time of the survey was patchy with evidence of recent onsite localised flooding noted towards the southern end of the site.

G2 – River Don

4.6 Bounding the sites southern boundary is the River Don which flows east to west. The River originates at Winscar Reservoir approx. 10 mile north west of the site and flows south to the city of Sheffield.

4.7 The section of river adjacent to the site measures approx. 10m wide and is fast flowing. The embankments are largely vegetated with grass/ruderal/scrub/trees with residential properties and gardens backing onto the northern side of the river.

4.8 The river was assessed in terms of its riparian mammal potential as shown within the fauna section of the report.

J2.5 – Dry stone wall

4.9 A dry-stone wall bounds the southern and western sides of the site. The wall is largely intact with some areas of collapse. The wall on the western end is partly mossed/vegetated.

Fauna

Bats

4.10 SBRC provided eleven records of bats within the 1km search area. The records date from 2004 and 2019. Three of the records are for common pipistrelle (*Pipistrellus pipistrellus*) bats, two soprano pipistrelle (*Pipistrellus pygmeaus*), one daubenton's (*Myotis daubentonii*), three noctule (*Nyctalus noctula*) and two are unconfirmed species.

4.11 SYBG provided 236 records of bats within the 1km search area. In addition to the aforementioned bat species, records for brown long-eared (*Plecotus auritus*), Leisler's (*Nyctalus leisleri*), natterer's (*Myotis nattereri*), whiskered (*Myotis mystacinus*) were returned. Of the records, eight relate to the site/immediately adjacent (using the six-figure grid reference provided). Of these eight, one is for a roost (dating 2007) within a house referred to as Millstones for an unidentified species of which a baby was taken into care. The other seven refer to the River Don and Daubenton's and common pipistrelle although no roost is stated to be present (records date 1991-2011).

4.12 Other records of importance include a common pipistrelle day roost located 95m to the north (Mill Farmhouse) and a common pipistrelle maternity roost located 250m south west within Oxspring Primary School. Both recorded in 2019.

Buildings

4.13 There are no buildings present onsite.

Trees

4.14 There are a number of scattered treed located onsite, three of which were noted for having bat roosting potential, as shown in Table 1. Although please note, trees along the River Don were only inspected from the southern side due to access constraints (northern elevations of the trees would need to be viewed from the watercourse or adjacent embankment).

Table 1: Bat Tree Assessment

Tree ref/Arboricultural report reference	**Description**	**Bat roost category**	**Photographic evidence**

T1/T20	Semi mature Alder tree located on southern side of the River Don's embankment. Woodpecker holes noted on the tree's southern elevation at approx. 2m height.	Moderate	
T2/T23	Semi mature alder tree located on southern side of the River Don's embankment. A large split/cavity locate within the main trunk, on the trees southern elevation.	Moderate	
T3/T33	Semi mature alder tree located on southern side of the River Don's embankment. Minimum of 5 features noted on southern elevation including; woodpecker holes, dead wood in branches and cavities within main trunk.	Moderate	

Foraging

4.15 Offsite/adjacent habitats offer moderate – high value foraging (River Don to the north, woodland to the west) with the onsite dominant habitat of poor semi-improved grassland offering low foraging value. However the current plans show that no linear features such as tree lines or drystone walling are to be removed or fragmented due to the development.

4.16 Measures will need to be in place to protect offsite/adjacent foraging habitats, during and post development.

Badgers

4.17 SBRC provided seven records of badger within 1km of the site (locations confidential).

4.18 No badger setts or evidence was recorded during the time of the survey, and their current absence can be assumed.

4.19 As activity patterns of this species can change over a short period of time, an update badger walkover survey should be carried out prior to the start of any onsite ground works (including clearance/trial pits etc).

Water Voles and Otters

4.20 SBRC returned four records of water vole (*Arvicola terrestris*) and no records of otter (*Lutra lutra*) within the 1km search area.

4.21 The water vole records date 1988 and 1997 and are considered historic. While no otter records were returned within the 1km radius of the site, otter are known to be present on the River Don (Sheffield & Rotherham Wildlife Trust 2016) which bounds the north side of the site.

4.22 The section of watercourse adjacent to the site has potential for supporting Otter due to its size, being fast flowing, well connected to other courses and habitats within the wider landscape, within a rural locality and likely to contain good fish populations. The surrounding terrestrial habitats (of trees/scrub/woodland) offer potential for shelter.

4.23 With regards for water vole, the habitat around the watercourse adjacent to the site are considered less desirable for this species, with shade density high and embankments along the northern side dominated by residential properties and gardens. Nevertheless, the potential for this species cannot be ruled out without further survey effort, which should be carried out during the optimal survey period.

Other mammals

4.24 SBRC returned records of brown hare (*Lepus europaeus*) and hedgehogs *(Erinaceus europaeus).* Four records of brown hare were returned ranging in date from 2004-2021. Eight records of hedgehogs were returned ranging in date form 1983-2015.

4.25 With regards for brown hare, the onsite grassland is considered suboptimal for this species, lacking in shelter and being of a patchy short sward.

4.26 With regards for hedgehog, the grassland is considered sub optimal although the bounding tree line and adjacent woodland offers potential for forging/shelter/hibernation. It is possible that the application site may be used by this species for foraging/commuting.

Birds

4.27 SBRC returned four UK protected species of bird recorded within the search area; barn owl (*Tyto alba*), kingfisher (*Alcedo atthis*), redwing (*Turdus iliacus*) and fieldfare (*Turdus pilaris*).

4.28 The grassland and tree line onsite provides potential for over wintering foraging fieldfare and redwing. The adjacent River Don offers potential for kingfisher and the field boundaries may offer barn owl foraging.

4.29 The following bird species were either observed or heard on site during the survey including mallard (*Anas platyrhynchos*), wood pigeon (*Columba palumbus*), blackbird (*Turdus merula*) and great tit (*Parus major*). The onsite scattered trees are of value for nesting birds and the river embankment is of value for nesting water birds.

Reptiles

4.30 SBRC did not return any records of reptile within the search area.

4.31 The habitats onsite are of sub optimal value for supporting reptiles with the sparse/patchy poor semi-improved grassland offering little in the way of shelter/foraging.

Amphibians

4.32 SBRC returned two historic records of great crested newts (*Triturus cristatus*), dating 1995.

4.33 There are no ponds onsite. There are no ponds shown on mapping software within 500m. The historic 1995 great crested newt record is for a garden pond located 320m to the north of the site, to the north of the River Don. The River Don is likely to act as a dispersal barrier for great created newts due to its width and fast flow.

4.34 As there are no accessible ponds present within 500m of the application site, there are no envisaged impacts of development on any local great crested newt populations.

Invertebrates

4.35 SBRC returned one UK protected invertebrate species; white-letter hairstreak (Satyrium w-album). Two records were returned dating 2005, for 120m and 530m north east of the application site, along the River Don.

4.36 The white-letter hairstreak requires elm *(Ulmus* sp.) trees within its lifecycle, a species which is absent from the site. Therefore the proposed development is not envisaged to have an impact on this species.

4.37 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 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.

Designated Sites

5.2 There are no statutory or non-statutory sites located within 1km of the site boundary.

Habitats

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

5.4 The River Don which bounds the north side of the site is of ecological importance and measures should be in place to protect it during and post development.

5.5 Under current proposals (drawing no. 940-02), seven residential properties will be constructed along the southern side of the application site with the gardens extending north, backing onto the River Don. It is recommended that a 5m buffer retained, creating a protective gap between the river's edge and the gardens. A clear boundary should be demarcated between the edges of the private gardens and the buffer, e.g planting of a native hedgerow or fence line (with access for hedgehogs, see section 5.21).

5.6 Measures should be implemented during the construction phase to minimise impact/damage on the adjacent watercourse;

Fuel

- 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.
- 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.

Dust

- Erect effective barriers around dusty activities or the site boundary.
- Use water as dust suppressant during demolition.
- Cutting equipment to use water as suppressant or suitable local exhaust ventilation systems.
- Securely cover skips and minimise drop heights.
- Plan site layout–machinery and dust causing activities should be located away from sensitive receptors.
- No bonfires.

Construction traffic

- All vehicles should switch off engines – no idling vehicles.
- Wash or clean all vehicles effectively before leaving the site if close to sensitive receptors.
- All loads entering and leaving site to be covered.
- No site runoff of water or mud.
- All non-road mobile machinery (NRMM) to use ultra-low sulphur tax-exempt diesel (ULSD) where available.
- On-road vehicles to comply with the requirements of a possible future Low Emission Zone (LEZ) as a minimum.

Lighting

- A lighting design plan will need to be incorporated to minimise light spill onto the neighbouring River Don and adjacent woodland (see section 5.8).

Fauna Recommendations

Bats

5.7 Three trees were assessed to be of potential for supporting roosting bats, T1-T3 all of which are located along the northern boundary alongside the River Don. These have been cross referenced with the Arboricultural report by AWA Tree Consultants and are referred to as T21, T23 and T33. These trees will be retained (drawing no. 940-02) although works will take place within the Root Protection Area of T1/T21 (garden landscaping/fence installation of Plot 1) for which protection measures should be implemented to avoid any long-term damage to the tree, as per the Aboricultural Method Statement (Dec 2020).

Lighting

5.8 Particular consideration should be given to potential light spill that can affect the foraging and commuting strategy of many species and should be avoided onto the trees along the northern boundary, adjacent river and woodland should not exceed 200 lumens (150 watts). The lighting plan should be designed in line with 'Bats and artificial lighting in the UK' https://cdn.bats.org.uk/pdf/Resources/ilp-guidance-note-8-bats-and-artificial-lighting-compressed.pdf?mtime=20181113114229

5.9 Where possible, any security lighting should be on a timer setting and faced down to prevent spillage onto nearby habitats. Height of any lighting columns around the development should not exceed eight meters to further reduce any ecological impact of light pollution. Low-pressure sodium lamps (SOX) fitted with hoods are recommended to direct light below the horizontal plane to minimize upward light spill.

Biodiversity enhancement

5.10 It is recommended that bat boxes are incorporated into the development, in order to provide additional roosting opportunities. Bat boxes can be fitted externally on new buildings, or integrated into the walls.

5.11 Further information of providing access for roosting bats can be found on: Bat Conservation Trust website: www.bats.org.uk/pages/new_build.html. The Nest Box Company:

www.nestbox.co.uk/Improved-Treble-Crevice-Bat-Box.html NHBS: www.nhbs.com/schwegler_bat_boxes_eqcat_422.html

5.12 It is encouraged that any landscaping relating to the proposed development should encompass native tree and shrub species to encourage foraging potential for species. No plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 should be planted during any landscaping within this development. For further details of Schedule 9 plants visit the Defra website: www.defra.gov.uk/wildlife-pets/non-native.

Badger

5.13 No badger setts were recorded in any of the visible areas during the time of the survey, and their current absence can be assumed, however an updated badger check should be carried out by an ecologist prior to any site clearance/ground works.

Otter and Walter Vole

5.14 The River Don which bounds the north side of the site has potential for supporting riparian mammals.

5.15 An otter and water vole scoping survey should be carried out on the adjacent River Don. This survey should be conducted during and following appropriate weather conditions (dry at the time of survey and days leading up to the survey), during spring months when the water levels are lower and when water vole are most active. The survey will need to extend a minimum of 500m up and down stream.

5.16 Should evidence of either otter or water vole be recorded along the River Don, an impact assessment will be made to determine whether or not mitigation/licences will be required.

Birds

5.17 With regards for nesting birds, the onsite trees and adjacent watercourse offer suitable bird nesting opportunities. It is recommended that the trees are retained on site.

5.18 Any vegetation/building clearance should be carried out avoiding the nesting bird season (which runs March – August). 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/ .

Hedgehog

5.20 Hedgehogs are protected in England under Schedule 6 of the Wildlife and Countryside Act (1981) and are also listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). This lists English species that were formerly identified as requiring action under the UK Biodiversity Action Plans and which continue to be regarded as conservation priorities under the current UK Post-2010 Biodiversity Framework.

5.21 A Precautionary Working Method Statement should be in place to avoid accidental killing/injury of this species during any vegetation/site clearance;

- Contractors made aware of the potential presence of hedgehogs;
- Vegetation clearance to be carried out by hand, slowly and methodically, particularly any areas of scrub/woodland understorey;
- Should any hedgehogs be discovered onsite, they should be picked up (with a gloved hand) and relocated offsite, away from the working areas. They should be placed under a hedgerow/vegetation;
- If any hibernating hedgehogs are discovered during the works, they must be recovered with vegetation and works must temporarily cease in that area. Site contractors should contact an ecologist, who will visit site to ensure that suitable replacement refugia (e.g. leaf litter pile or accumulation of material most resembling what the hedgehog has been found in) can be constructed in an undisturbed part of the site that will remain unaffected for the rest of the winter, likely beneath one of the hedgerows. The ecologist, wearing suitable thick gloves, will then carefully translocate the hedgehog to the hibernacula. If there is any doubt over translocating the hedgehog to a different part of the site, or if the hedgehog appears to be harmed or underweight, the ecologist will take the hedgehog into care and will contact the local wildlife hospital for advice.
- During construction works, any excavations left open overnight should be installed with a mammal ladder (piece of wood) to allow any hedgehogs (or other mammals including badger) an ease of escape;
- As the site's redevelopment may result in the loss of shelter opportunities for this species, and as any new properties and gardens will fragment the site, inhibiting easy mammal dispersal, it is recommended that in accordance with the Hedgehog Street Scheme (http://www.hedgehogstreet.org), the new fence lines are constructed containing a small hole within the base to allow continued movement. The gap needs to be 13x13cm or 5 inches square and so will be too small for most pets. Alternatively, a pre-made hedgehog friendly gravel board can be installed at the base of the fences (http://www.jarrettfencing.co.uk/product/hedgehoggravel- board/). This will not only maintain any value of the site for hedgehogs, but will also enhance the site.

6.0 References

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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:
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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

Phase I Habitat Survey Map



Proposed site plan



7.0 Photographic Plates

Plate 1: View of the site looking west along the southern boundary



Plate 2: View of the eastern boundary looking north towards the river.



Plate 3: View of the River Don looking west along the northern site boundary



Plate 4: View of the south west boundary looking south



Appendix 1: Desk Study



