

**Preliminary Ecological Appraisal
Land off Cheddleton Park Avenue,
Cheddleton,
Staffordshire.**

**Report prepared for: Frank Murray
Developments Ltd**

February 2018

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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Non-technical summary

Absolute Ecology LLP was commissioned to undertake a Preliminary Ecological Appraisal of a site known as land off Cheddleton Park Avenue, Cheddleton, Staffordshire. The Preliminary Ecological Appraisal was undertaken on 7th February 2018 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 semi urban location, within the village of Cheddleton. The site is immediately bounded to the north, west and south by semi improved grassland, and to the east by residential properties. The site itself is predominantly tussocky semi improved grassland with occasional scrub vegetation and a single vegetated mound comprised of spoil. The site is open and lacks boundaries on the north, west and south sides of the site.

There are no statutory sites located within 2km of the site boundary. There are eighteen 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. Three of the Local Wildlife Sites, Cheddleton Marsh, Caldon Canal and Caldon Canal (south of Basford Bridge) are within close proximity of the site. However, the key ecological features of these sites are of flora and, given the scale of the development no direct impacts are envisaged. As the Caldon Canal runs approx. 80m north of the site, and the topography of the site is directionally north, care will need to be taken to ensure there are no indirect impacts e.g. pollution during and post development.

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

- **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 foraging/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** – With regards for nesting birds, the site currently hold limited potential as it has been cleared and is exposed. However, once the grassland and scrub re-establishes, nesting features may become available. Therefore, any pre construction de-vegetation/site clearance works should be done outside of the bird breeding season which runs March-August inclusive;
- **Reptiles** - The habitats onsite and offsite are considered suitable for reptile utilisation. 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; and
- **Great crested newts** - the habitats present onsite (tussocky semi improved grassland, occasional

scrub) offer suitable great crested newt (GCN) terrestrial habitat (in addition to other common amphibians). There is one pond located within 500m of the site boundary, which has a 2007 record for GCN presence. A Habitat Suitability Index assessment was carried out which concluded the pond to be of 'average' value for supporting GCN. Presence/absence surveys will therefore need to be carried out on the pond 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.

No other ecological constraints were identified. There are no buildings or trees onsite, limiting the potential for bats and no riparian mammal features are present within close proximity.

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1.0 Introduction

Background

- 1.1 Absolute Ecology LLP was commissioned to undertake a Preliminary Ecological Assessment of a site known as land off Cheddleton Park Avenue, Cheddleton, Staffordshire. The site is centred on Ordnance Survey (OS) grid reference: SJ7974523.
- 1.2 The Assessment was undertaken on the 7th February 2018 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 due 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 semi urban location, within the village of Cheddleton. The site is immediately bounded to the north, west and south by semi improved grassland, and to the east by residential properties. The site itself is predominantly tussocky semi improved grassland with occasional scrub vegetation and a single vegetated mound comprised of spoil. The site is open and lacks boundaries on the north, west and south sides of the site.
- 1.7 The site is a section of a large semi improved grassland field which extends south to a recreational ground 60m away, west to Cheddle road, and north to the Caldon Canal, located approximately 80m away. To the east is a large residential development which the proposed site intends to become an extension of.

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 7th February 2018 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. Additionally the survey was conducted when the ground was frozen and covered in a thin layer of snow. Although the grassland has been assessed to be semi improved grassland, due to the aforementioned constraints, an update assessment of the habitats should be undertaken during the optimum survey period (April – September).
- 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 designated sites within 2 km of the site.
- 4.2 There are 18 non-statutory sites within 2 km of the site, as shown within Table 1.

Table 1: Non Statutory sites within 2km

Grid Ref.	Site Name	Status
SJ947537	Park Lane Farm (north and east of), Caldon Canal	Local Wildlife Site (LWS)
SJ958507	The Rookery	Local Wildlife Site
SJ958526	Deep Hayes Country Park	Local Wildlife Site
SJ960536	Horse Bridge	Retained BAS
SJ965533	Caldon Canal	Local Wildlife Site
SJ965535	Horse Bridge (east of)	Retained BAS
SJ967534	Cheddleton Marsh	Local Wildlife Site
SJ968538	Caldon Canal (south of Hollinhay Wood)	Local Wildlife Site
SJ979503	Felthouse Wood	Retained BAS
SJ979513	Ashcombe Deer Park	Retained BAS
SJ975538	Cheddleton Heath (dismantled railway)	Local Wildlife Site
SJ979539	Leek Brook Meadow	Biodiversity Alert Site
SJ982510	Caldon Canal (south of Basford Bridge)	Local Wildlife Site
SJ984516	Basford Green (west of)	Local Wildlife Site
SJ986534	Cheddleton Heath	Local Wildlife Site
SJ980540	Soils Wood	Local Wildlife Site
SJ991529	Ringehay Grassland	Retained Grade 1 SBI
SJ997530	Rod Wood	SWT Nature Reserve

Caldon Canal

- 4.3 This LWS is located approximately 410m to the north west of the proposed development site, over the A520 main road. For much of its length there is a managed hawthorn hedge. There are areas of goat willow scrub. The towpath edge supports quite species-rich marshy grassland. To the south is an area of broad-leaved woodland.

Cheddleton Marsh

- 4.4 Cheddleton marsh runs parallel to the Caldon Canal LWS. The site comprises approximately 5 hectares of swamp, with additional areas of marshy grassland, wet woodland and poor semi-improved neutral grassland over three separate fields.

Caldon Canal (South of Basford bridge)

- 4.5 This section of the canal is located approximately 680m to the south east of the surveyed site and is noted for its canal side with emergent vegetation.
- 4.6 Both the Caldon Canal LWS's and Cheddleton Marsh LWS are located over main roads, with their key ecological features those of flora. No impacts on these habitats are envisaged, although as the Caldon

Canal runs approx. 80m north of the site, care will need to be taken to ensure no indirect impacts e.g pollution during and post development.

- 4.7 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

- 4.8 SER provided the following records for protected and notable species within 2 km of the site boundary (individual records discussed in detail within the Fauna section of the report):

Bats – five 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 recorded, great crested newt (*Triturus cristatus*), and one UKBAP species, common toad (*Bufo bufo*).

Birds – 24 species of bird recorded all either European or UK protected, or of principle concern and 61 UKBAP species.

Mammal – four UK protected species of mammal, including otter (*Lutra lutra*) which is also a European protected species and three UKBAP species of mammal.

Reptiles – four records of UK protected reptile species, although three species records are considered historic. Of the records, only grass snake (*Natrix natrix*) have been recorded within the last ten years (other records of Adder, common lizard and slow worm date pre-2000).

Flowering plants – one UK protected plant species, bluebell (*Hyacinthoides non-scripta*), and one UK and European protected plant species, Floating water plantain (*Luronium natans*) although records of the latter are historic (1982). Additionally 37 records of UKBAP plant species recorded.

Invertebrates – no UK or European protected invertebrate species have been recorded. 38 UKBAP species recorded within the search area.

Crustacean – White clawed crayfish (*Austropotamobius pallipes*) a UK protected species recorded within the search area although records are historic (most recent record 1995).

Habitats

- 4.9 The following habitats or vegetation types were identified on or immediately offsite during the course of the habitat survey;
- Semi improved grassland
 - Scrub
 - Mound
- 4.10 Supporting photographic plates are shown in Section 8.0.

Semi improved grassland (plates 1 and 2)

- 4.11 The site is dominated by semi improved grassland with species recorded including; dominant perennial ryegrass (*Lolium perenne*), occasional cocks foot (*Dactylis glometra*) and occasional common bent (*Agrostis capillaris*). Due to the time of the year the survey was conducted, weather conditions (frozen ground and light covering of snow) and that the site had been mown, herbaceous species were difficult to assess/identify. However, they did seem sparse which is to be expected given the tussocky nature of the grassland sward which was frequently dense.

Scrub

- 4.12 Scattered onsite particularly around the mound (TN1) and along the eastern boundary are areas of scrub. Within these areas, common broom (*Cytisus scoparius*) dominates with frequent gorse (*Ulex europaeus*) and bramble (*Rubus fruticosus*). This type of scrub is more dominant offsite, particularly to the south east.

Mound

- 4.13 Located towards the eastern side of the site is a mound (TN1) formed of soil associated with the development of Cheddleton Park Avenue approx 10 years ago. The mound is vegetated with grassland and scrub.

Fauna

Bats

- 4.14 SER provided several records of bat species within 2 km of the site. No confirmed roosts have been identified, although the following species have been recorded on field observations; Daubenton's (*Myotis daubentonii*), Noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared (*Plecotus auritus*).
- 4.15 There are no buildings or trees located within the site boundary; therefore the site offers no suitable bat roosting features.
- 4.16 There are no site boundaries (with the exception of a fence line on the western side) therefore bat commuting features are absent. The semi improved grassland does however offer good foraging opportunities for bats, especially in conjunction with neighbouring habitats and features within the wider landscape. However, given the size of the site, its loss is not considered to be of detriment to the local bat population.

Badgers

- 4.17 SER provided records of badger within 2 km of the site (locations confidential).
- 4.18 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 to the eastern end of the site and around the mound (plate 3).
- 4.19 The continuation of the semi improved grassland and scrub to the south east of the site (south of Cheddleton park avenue housing estate) was searched for further badger evidence as well worn mammal paths lead into this area. Amongst the broom/gorse scrub paths were noted penetrating the vegetation. Two latrines were recorded within the area and extensive foraging evidence. The paths all seem to lead towards a boundary fence (located approx. 170m SE of the proposed development site) where it is apparent badgers are going beneath the post and wire fence to a dense/undisturbed area of scrub. Based on the extensive badger foraging/commuting evidence offsite within this area, it is anticipated that a main sett is located near by. However, as it is well removed from the development site, no conflicts during and post development are anticipated although care will need to be taken during works as open excavations could cause harm to badgers.

Dormice

- 4.20 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

- 4.21 There are records of water voles (*Arvicola amphibious*) and Otters (*Lutra lutra*) occurring within 2 km of the site. The search returned nine records of water vole, eight of which are pre-2000 with a 2002 record for a field observation of a single adult located 1.5km to the west of the site. With regards for otter, six records were returned ranging in dates from 1989-2015. All records relate to the River Churnet with a 2015 record located 120m to the north of the site.
- 4.22 There are no watercourses/water bodies present onsite. The Caldon Canal is located 80m to the north, beyond which runs the River Churnet. Both watercourses run to the south of, and through an industrial estate. Separating the proposed development site from these watercourses is an area of semi improved grassland/scrub.
- 4.23 While it has been demonstrated that the watercourses, the River Churnet in particular, has suitability for riparian mammals, given its distance away from the proposed working area, and that at its nearest point it is already located within a disturbed setting, no impacts associated with the proposed works are anticipated. Care will however need to be taken to ensure no accidental pollution to the watercourses, during construction works.

Other mammals

- 4.24 SER returned records of hedgehog (*Erinaceus europaeus*), brown hare (*Lepus europaeus*), harvest mice (*Micromys minutus*) and polecat (*Mustela putorius*) within the search area.
- 4.25 Twenty records of hedgehog were returned ranging in dates form 1979-2016. The onsite habitats are generally considered unsuitable for hedgehogs as the site currently offers little cover/shelter.

- 4.26 Twenty one records of brown hare were returned, ranging in dates from 1978-2014. The grassland onsite would be suitable for this species although given its relative isolated location (with main roads and water courses within the extended habitat) and lack of sightings onsite during the survey, it is considered that brown hares are likely to be absent.
- 4.27 A single harvest mouse record was returned for a nest discovered in 2004. An inaccurate grid reference was given for the record (4 figure) although the record states the nest was discovered along the Churnet Valley Canal. This species requires areas of tall grass and while semi improved grassland is present onsite, it is relatively species poor and thought unsuitable for this species. Additionally, due to the relatively isolated nature of the site, it is considered unlikely that this species would be present.
- 4.28 Four records of polecat were returned with a 2004 record located on the A520 located 150m to the west of the site. The record was for a deceased mammal. Polecats can be found in areas of farmland, woodland and grassland and rabbits are a main food source (along with rodents, birds and insects). The grassland onsite would be suitable for this species although it does lack cover/shelter particularly onsite. Polecats shelter within tree roots/rabbit burrows/stone walls features of which, are absent from the site and immediate surroundings. Therefore, the proposed site works are not anticipated to impact upon this species.
- 4.29 The tussocky nature of the sward onsite provides plenty of cover for a good number of small mammals particularly shrews and voles. Within the grassland immediately offsite, a large number of small mammal runs and burrows were recorded.

Birds

- 4.30 A number of bird species were returned during the data search by SER, including the following (non-historic) protected species; common kingfisher, greylag goose, short eared owl, barnacle goose, little plover, marsh harrier, whooper swan, peregrine falcon, Eurasian hobby, brambling, common crossbill, red kite, redwing, fieldfare and barn owl.
- 4.31 As the site has been cleared and now comprises mown semi improved grassland with occasional scrub, the site itself offers limited nesting and foraging opportunities, mainly due to the lack of cover and shelter. The neighbouring grassland and scrub is suitable for nesting birds.
- 4.32 There is one barn owl (*Tyto alba*) record, dating from 2001, for a sighting located near Cheddleton train station. There are two short eared owl (*Asio flammeus*) records dating from 2011. It is likely that these predominantly nocturnal species are under reported and given the tussocky habitats onsite, which support a high population of small mammals it is possible that these species is utilising the site for foraging. Barn owl is also a priority species within Staffordshire, with a Biodiversity Action Plan in place.
- 4.33 The following were all either observed or heard on site during the survey: wren (*Troglodytes troglodytes*) blackbird (*Turdus merula*) and common pheasant (*Phasianus colchicus*).

Reptiles

- 4.34 SER provided records of four species of reptile; adder (*Vipera berus*), slow worm (*Anguis fragilis*), common lizard (*Zootoca vivipara*) and grass snake (*Natrix natrix*). However, only the grass snake has records post 2000 with the remaining species records been considered historic, although, as with many species they may be under reported. A total of thirty eight grass snake records were returned, six of which range in date from 2000-2007.

- 4.35 The tussocky grassland on and offsite, with associated scrub is of suitability for reptile species; grass snake, common lizard and slow worm in particular. The habitats onsite are considered to be unsuitable for adder who prefer heathland, woodland and moors.
- 4.36 With regards for grass snake the canal and river to the north of the site offers commuting and foraging opportunities. Common lizards are often found within grassland especially in tussocky unmanaged grassland where clearings are available for basking, with scrub offering shelter. The site is connected to the wider landscape via the watercourse and 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

- 4.37 SER returned one record of great crested newts within the search area dating from 2007, located 130m south west from the site, within Pond 1 (figure 1). This pond was subject to a Habitat Suitability Index (HSI) assessment as shown in Table 2.
- 4.38 Pond 1 (plate 4) is located within a wooded area on the north west side of Cheddleton recreational ground. It is large in size and of unknown depth. At the time of the survey, the surface was frozen and the water beneath appeared clear. Bulrushes (*Typha* spp.) and Iris spp (*Iris* spp.). were evident, no other vegetation was noted although due to the time of year the survey was undertaken, this is to be expected. No evidence of water fowl were noted, and no fish were seen. The pond appears well established and not prone to drying. The habitats immediately bounding the pond are of good terrestrial habitat for amphibians, with connectivity to the wider landscape.

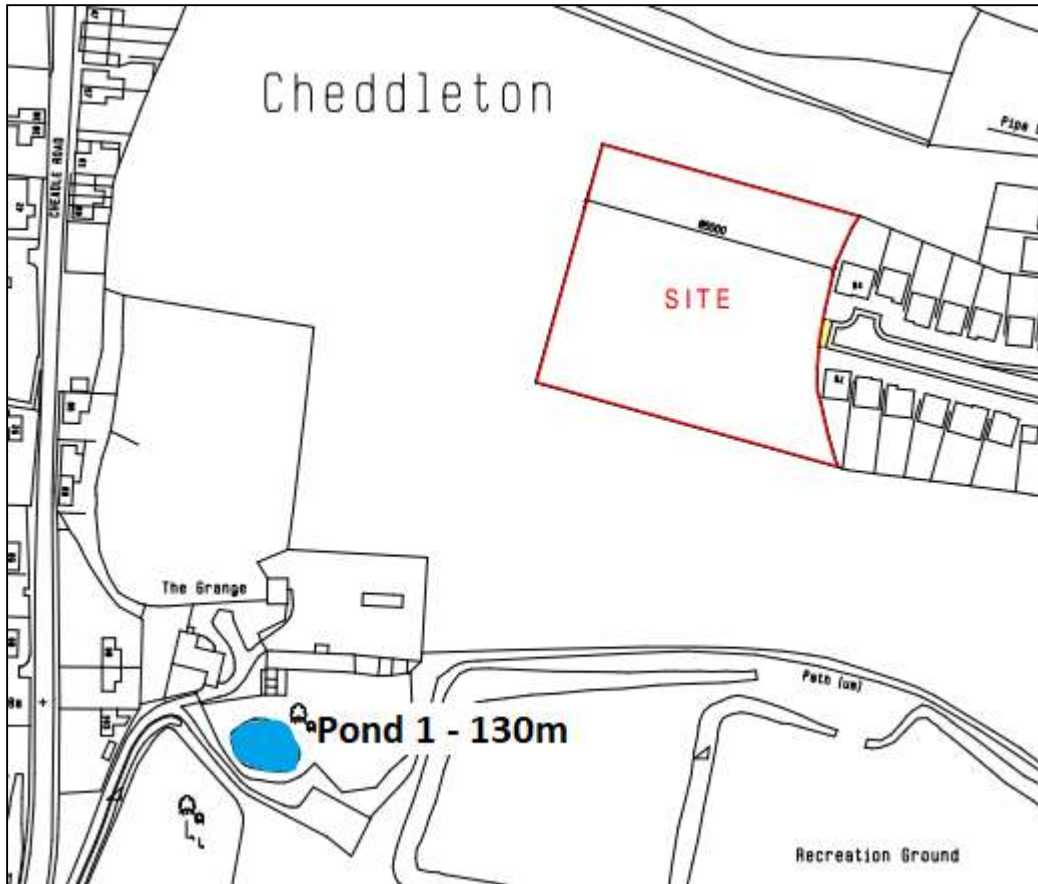
Table 2: Habitat Suitability Index assessment results

Date HSI assessment undertaken	07/02/18
Pond ref	Pond 1
SI1 - Location	1
SI2 - Pond area	0.7
SI3 - Pond drying	0.9
SI4 - Water quality	0.67
SI4 - Shade	0.6
SI6 - Fowl	1
SI7 - Fish	0.67
SI8 - Ponds	0.9
SI9 - Terr'l habitat	1
SI10 - Macrophytes	0.1
HSI	0.66 (average)

- 4.39 The HSI was conducted on the 7th February 2018, 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 results from the HSI assessment concluded that P1 is of 'average' value for supporting great crested newts.
- 4.40 The terrestrial habitats present onsite (tussocky grassland with occasional scrub) are considered suitable for great crested newt utilisation, offering foraging/commuting opportunities, with adjacent scrub habitats offering potential hibernation opportunities. As the pond is located within close proximity to the

proposed development site, and as great crested newts have been recorded within the pond in 2007, presence/absence surveys will be required.

Figure 1: Pond location Plan (site boundary indicated in red)



Invertebrates

- 4.41 SER did not provide any records of protected invertebrate species. The data search returned a number of historic rare or species of Principle Concern records, and sixteen non historic.
- 4.42 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. Additionally given the size of the proposed development, within a much larger area of similar habitat, its loss if not considered to have a major negative impact on any invertebrate 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. There are eighteen non statutory sites with three sites in close proximity; Cheddleton Marsh, Caldon Canal and Caldon Canal (south of Basford Bridge). No direct impacts are envisaged on these habitats, although as the Caldon Canal runs approx. 80m north of the site, and the topography of the site is directionally north, care will need to be taken to ensure there are no indirect impacts e.g. pollution during and post development. The following precautions should be implemented during site works;

- 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.

Habitats

- 5.3 Botanically, the site itself does not appear to have any rare species and it is not particularly diverse. However, due to the time of the year which the survey was conducted and due to the weather conditions (frozen ground with a light covering of snow), the grassland should be reassessed during the optimum time period between April and September.

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;

Badgers

- 5.5 Loss of foraging/commuting habitat.

Nesting Birds

- 5.6 The site currently offers limited nesting value as it has been cleared. Once the scrub and grassland has re-established, nesting opportunities may become present. Therefore, site clearance may directly harm nesting birds if carried out during the breeding season (March to August inclusive).

Barn owl and short eared owl

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

Reptiles

- 5.8 The site has potential to support reptiles. The sites redevelopment could result in the loss of foraging/commuting habitat. Site clearance may directly kill/injure reptiles.

Great crested newts

- 5.9 The site has potential to support terrestrial GCN (and other common amphibians; toads, frogs, newts). 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.

Recommendations

- 5.10 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.

Badgers

- 5.11 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. 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.
- 5.12 Additionally, during construction works, excavations should be left closed overnight or a mammal ladder installed. The ladder needs to be of a size suitable for badgers and can be constructed out of a piece of wood/timber.

Birds

- 5.13 With regards for nesting birds, the site currently hold limited potential as it has been cleared and is exposed. However, once the grassland and scrub re-establishes, nesting features may become available. Therefore, any pre construction 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.
- 5.14 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 and short eared owl

- 5.15 With regards for owls, the redevelopment of the site could result in the loss of owl foraging opportunities. However, the site is relatively small and its loss, should owls be utilising the site, it not considered to be of detriment to the local populations, especially given the rural locality of the site. As a housing development is proposed, it is unlikely that the buildings would be suitable for a owl nest box installation. Therefore, no recommendations are in place for these species.

Reptiles

- 5.16 The site has the potential to support reptile species. It is therefore recommended that reptile presence/absence surveys are undertaken.
- 5.17 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.
- 5.18 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

- 5.19 The site has the potential to support terrestrial GCN. There are no waterbodies present onsite. Pond 1 located 130m south west of the site was concluded to be of 'average' suitability for supporting GCN. A 2007 record of GCN was returned for this pond indicating past presence of this species.
- 5.20 GCN presence/absence surveys will need to be carried out on Pond 1 as the sites redevelopment could result in the loss of terrestrial GCN habitat. Pond 1 is located 130m 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.
- 5.21 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.
- 5.22 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.

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.
- Anon (2002) *Badgers and Development*. English Nature, Peterborough.
- Anon (2003) *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (Revised reprint)*. Joint Nature Conservancy Council, Peterborough.
- Anon (2004) *Reptiles: Guidelines for Developers*. English Nature, Peterborough.
- Foster, J. (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.
- Gent, T. & Gibson, S. (1998) *Herpetofauna Workers Manual*. Joint Nature Conservation Committee, Peterborough.
- Hundt L (2012) *Bat Surveys: Good Practice Guidelines*, 2nd edition, Bat Conservation Trust.
- Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.
- Mitchell-Jones, A.J. & McLeish, A.P. [Eds.] (2004). *The Bat Workers Manual* (3rd edition). Joint Nature Conservancy Council, Peterborough.
- 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>

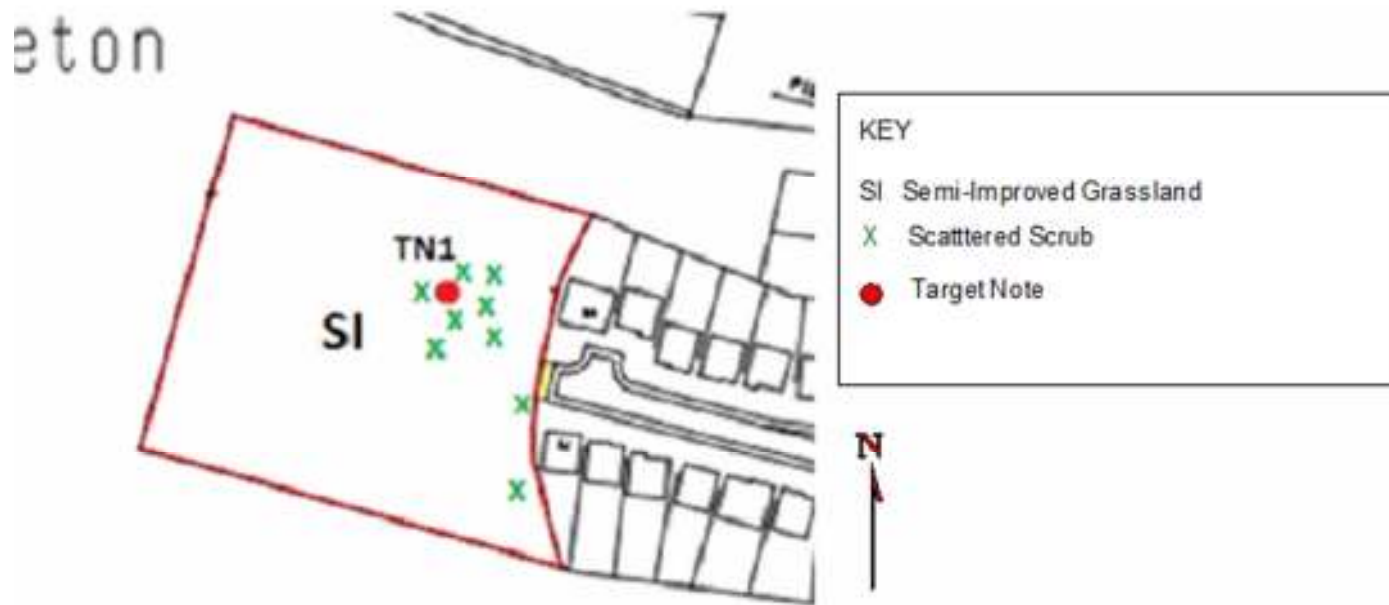
Protection of Badgers Act 1992:
http://www.opsi.gov.uk/ACTS/acts1992/ukpga_19920051_en_1

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 Survey Map



8.0 Photographic Plates

Plate 1: View of the site looking north, photo taken from the south west corner of the site



Plate 2: View of the site looking south, with the mound shown on the left



Plate 3: Suspected badger path on the mound (TN1)



Plate 4: Pond 1



9.0 Appendix 1: Desk Study