absolute ecology LLP wildlife surveys

Preliminary Ecological Appraisal

Land at The Cross, Hollington,

Stoke-on-Trent, ST10 4HH

James Porter

April 2017

Notice to readers

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Non-technical summary

Absolute Ecology LLP were commissioned to undertake a Preliminary Ecological Appraisal of a site known as Land at The Cross, Hollington, Stoke-on-Trent, ST10 4HH. The Assessment was undertaken on the 4th April 2017 by an experienced ecologist who is a member of the Chartered Institute of Ecology & Environmental Management (CIEEM). The client has submitted an outline application for the erection of dwellings, vehicular access and formation of a car park at Land adjacent the Cross, Hollington. 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 on how to proceed with the works in a legal and ecologically sensitive manner.

The site comprised of a small (approx. 0.2ha) plot; used for grazing ponies. This was situated immediately adjacent to residential properties, but in a largely rural location on the edge of the village of Hollington near Stoke-on-Trent. Within the wider landscape are arable and pasture fields, with hedgerows and ditches along the boundaries.

Recommendations are made to limit the width of the required severance of the hedgerow, and regarding the design of a suitable lighting strategy, in order to mitigate impacts on bats. It is therefore not considered necessary to conduct further surveys regarding commuting/foraging routes, as implementation of avoidance measures can be made a condition of any planning consent granted (see BS 42020:2013 section D.3.5). Recommended enhancements include artificial roosting provision for bats within the site, in order to encourage bat diversity on site.

Nesting birds may be present in the trees and hedgerows during the bird breeding season (March to August inclusive). If vegetation removal is planned during these months, then a check for nesting birds should be undertaken by an ecologist immediately prior to such works. Any active nests that are found must not be moved until fledglings have dispersed. It is not considered necessary to conduct further surveys regarding breeding birds, as implementation of avoidance measures can be made a condition of any planning consent granted (see BS 42020:2013 section D.3.2.1). Recommended enhancements include nesting boxes, and enhancing hedgerows and shrubs.

Two nearby ponds show potential to support great crested newt (GCN). Whilst Natural England's standing advice recommends further surveys for sites where suitable ponds are present within 500m, their Rapid Risk Assessment Tool factors in the size of the site and its distance from ponds when considering whether or not a criminal offense is likely to occur if GCN are present within a nearby pond. Assessed against this tool, the proposed development gives an assessment result of 'Green: Offence Highly Unlikely'. It is therefore considered that further surveys to establish the presence/absence of GCN within these ponds are not required in this instance, as even if they are present within the ponds the risk of harm to GCN from the proposed development can be adequately managed through implementation of a suitable working method statement. A GCN Method Statement (including Ecological Clerk of Works and other reasonable avoidance measures) will need to be agreed with the LPA in advance of works commencing on site (see BS 42020:2013 section D.2.1).

Potentially suitable habitat for hedgehogs would be lost under the proposals. The surveys required to firmly establish presence or likely absence of hedgehogs on site are considered excessive, given the ease and affordability of avoiding/compensating potential impacts on this species. Hedgerow removal will need to take place under ecological supervision (in order to avoid potential for direct harm), and artificial habitat for hedgehogs ('Hogitat Hedgehog House' or similar) installed within a boundary hedgerow (in order to compensate for habitat potentially lost).

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1.0 Introduction

Background

1.1 Absolute Ecology LLP were commissioned to undertake a Preliminary Ecological Appraisal of a site known as Land at The Cross, Hollington, Stoke-on-Trent, ST10 4HH.

1.2 The Assessment was undertaken on the 4th April 2017 by James Porter BSc(Hons), MSc; an experienced ecologist who is a member of the Chartered Institute of Ecology & Environmental Management (CIEEM). He has 5 years' experience of conducting Preliminary Ecological Appraisals (Phase 1), and holds a Class 2 Bat Licence, with 6 years' experience of bat inspection, as well as a Class 1 Great Crested Newt Licence and 5 years' experience of GCN surveying.

1.3 The client has submitted an outline application for the erection of up to four dwellings, new vehicular access and the formation of a car park to serve St. John's Church at Land adjacent the Cross, Hollington. 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.

1.4 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

The site comprised of a small (approx. 0.2ha) plot; used for grazing ponies. This was situated immediately adjacent to residential properties, but in a largely rural location on the edge of the village of Hollington near Stoke-on-Trent. Adjacent to the east are further horse paddocks. Within the wider landscape are arable and pasture fields, with hedgerows and ditches along the boundaries. A waterbody lies approx. 150m southeast of site, with another approx. 165m southwest, and one approx. 400m south of site. Small streams are present to the west (approx. 310m at its closest point) and east (approx. 550m at its closest point) of site. Historic maps of the area show further small waterbodies, but these are no longer present.

2.0 Methods

Desk Study

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

2.2 Information requested was as follows:-

- Records of protected species within the 2km of the site.
- Records of rare or notable species within the 2km of the site.
- Non-statutory site designations on or within 2km 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 2km of the site.
- Statutory sites designated for bats within 5km of the site.

Habitat Survey

2.4 The site was visited on the 4th April 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 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

2.6 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

2.7 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.

2.8 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

2.9 Data Search

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.

2.10 Field survey

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

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

2.11 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

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

4.2 There are no statutory designated sites for bats within 5km of the site.

4.3 There are eight non-statutory sites within 2km of the site.

- Broadgatehall Drumble Local Wildlife Site
- Birchendale road verge Retained BAS
- Broadmoor Wood and Quarry Retained BAS
- Yardhouse Farm MeadowBiodiversity Alert Site
- Hollington (north-east of) Biodiversity Alert Site
- The Long Chase (east of) Local Wildlife Site
- Ferneyhill Retained BAS
- Jeffreymeadow (south of) Local Wildlife Site

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

Plants –

Euphrasia confusa	Little Kneeling Eyebright
Filago vulgaris	Common Cudweed
Hieracium acuminatum	Tall Hawkweed
Hyacinthoides non-scripta	Bluebell
Mentha pulegium	Pennyroyal
Monotropa hypopitys	Yellow Bird's-nest
Polemonium caeruleum	Jacob's-ladder

Mammals –

Arvicola amphibius	European Water Vole
Erinaceus europaeus	West European Hedgehog
Lepus europaeus	Brown Hare
Lutra lutra	European Otter
Meles meles	Eurasian Badger
Mustela putorius	Polecat
Chiroptera	a bat
Myotis	Myotis Bat species
Myotis nattereri	Natterer's Bat
Nyctalus noctula	Noctule Bat
Pipistrellus pipistrellus sensu lato sensu lato	Pipistrelle
Pipistrellus pipistrellus sensu stricto sensu stricto	Common Pipistrelle
Pipistrellus pygmaeus	Soprano Pipistrelle
Plecotus auritus	Brown Long-eared Bat

Birds –

Acanthis cabaret	Lesser Redpoll
Accipiter gentilis	Northern Goshawk
Actitis hypoleucos	Common Sandpiper

Alauda arvensis	Sky Lark
Alcedo atthis	Common Kingfisher
Anas acuta	Northern Pintail
Anas clypeata	Northern Shoveler
Anas crecca	Eurasian Teal
Anas platyrhynchos	Mallard
Anas querquedula	Garganey
Anas strepera	Gadwall
Anser albifrons	Greater White-fronted Goose
Anser anser	Greylag Goose
Anser brachyrhynchus	Pink-footed Goose
Anthus pratensis	Meadow Pipit
Anthus trivialis	Tree Pipit
Apus apus	Common Swift
Asio flammeus	Short-eared Owl
Aythya ferina	Common Pochard
Aythya fuligula	Tufted Duck
Branta leucopsis	Barnacle Goose
Bucephala clangula	Common Goldeneye
Calidris alpina	Dunlin
Calidris canutus	Red Knot
Caprimulgus europaeus	European Nightjar
Charadrius dubius	Little Plover
Charadrius hiaticula	Ringed Plover
Chroicocephalus ridibundus	Black-headed Gull
Circus aeruginosus	Eurasian Marsh Harrier
Columba oenas	Stock Dove
Cuculus canorus	Common Cuckoo
Cygnus cygnus	Whooper Swan
Delichon urbicum	House Martin
Egretta garzetta	Little Egret
Emberiza citrinella	Yellowhammer
Emberiza schoeniclus	Reed Bunting
Falco peregrinus	Peregrine Falcon
Falco subbuteo	Eurasian Hobby
Falco tinnunculus	Common Kestrel
Fringilla montifringilla	Brambling
Gallinago gallinago	Common Snipe
Haematopus ostralegus	Eurasian Oystercatcher
Hirundo rustica	Barn Swallow
Larus argentatus	Herring Gull
Larus canus	Common Gull
Larus fuscus	Lesser Black-backed Gull
Larus fuscus subsp. graellsii	a lesser black-backed gull
Larus marinus	Great Black-backed Gull
Larus melanocephalus	Mediterranean Gull
Larus michahellis	Yellow-legged Gull
Limosa lapponica	Bar-tailed Godwit
Limosa limosa	Black-tailed Godwit
Linaria cannabina	Linnet
Loxia curvirostra	Common Crossbill
Lullula arborea	Wood Lark
Lymnocryptes minimus	Jack Snipe

Milvus milvus	Red Kite
Motacilla cinerea	Grey Wagtail
Motacilla flava	Yellow Wagtail
Motacilla flava subsp. flavissima	Yellow Wagtail
Muscicapa striata	Spotted Flycatcher
Numenius arquata	Eurasian Curlew
Numenius phaeopus	Whimbrel
Oenanthe oenanthe	Northern Wheatear
Passer domesticus	House Sparrow
Passer montanus	Eurasian Tree Sparrow
Phylloscopus trochilus	Willow Warbler
Picus viridis	Green Woodpecker
Podiceps nigricollis	Black-necked Grebe
Poecile montana	Willow Tit
Poecile palustris	Marsh Tit
Prunella modularis	Dunnock
Pyrrhula pyrrhula	Common Bullfinch
Recurvirostra avosetta	Pied Avocet
Riparia riparia	Sand Martin
Saxicola rubetra	Whinchat
Scolopax rusticola	Eurasian Woodcock
Sterna hirundo	Common Tern
Sterna paradisaea	Arctic Tern
Streptopelia turtur	European Turtle Dove
Sturnus vulgaris	Common Starling
Sylvia communis	Common Whitethroat
Tachybaptus ruficollis	Little Grebe
Tadorna ferruginea	Ruddy Shelduck
Tringa glareola	Wood Sandpiper
Tringa nebularia	Common Greenshank
Tringa ochropus	Green Sandpiper
Tringa totanus	Common Redshank
Turdus iliacus	Redwing
Turdus philomelos	Song Thrush
Turdus pilaris	Fieldfare
Turdus viscivorus	Mistle Thrush
Tyto alba	Barn Owl
Vanellus vanellus	Northern Lapwing
Amphibians –	
Bufo bufo	Common Toad
Triturus cristatus	Great Crested Newt
Insects –	
Bombus (Pyrobombus) hypnorum	Tree Bumble Bee
Spilosoma lubricipeda	White Ermine
Reptiles –	
Natrix natrix	Grass Snake
Lichens –	
Cladonia chlorophaea	lichen

Habitats

4.5 The following habitats or vegetation types were identified on the site during the course of the habitat survey.

- Species-poor semi-improved grassland
- Hedgerow containing trees
- Bare ground

Species-poor semi-improved grassland

4.6 Grass species dominated, including; perennial rye grass (*Lolium perenne*), cock's foot (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*). Forb species were limited to occasional dandelion (*Taraxacum officinale*), common mallow (*Malva sylvestris*), yarrow (*Achillea millefolium*), dove's-foot crane's-bill (*Geranium molle*), ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), broad-leaved dock (*Rumex obtusifolius*) and mugwort (*Artemisia vulgaris*); as well as locally abundant common nettle (*Urtica dioica*) and creeping thistle (*Cirsium arvense*) at field edges.

Hedgerow containing trees

4.7 Species-poor hedgerows were present at the western, northern and eastern boundaries. These were approx. 1.5m-2m tall by approx. 2m wide, and showed signs of regular maintenance (an impression reinforced through observing historic photographs from the roadside). Common holly (*Ilex aquifolium*) dominated in some areas, whilst common hawthorn (*Crataegus monogyna*) dominated in others. Also present were occasional common elder (*Sambucus nigra*) and rarely pedunculate oak (*Quercus robur*) saplings. Standard trees were present in the form of semi-mature individuals of common holly, pedunculate oak and silver birch.

Bare ground

4.8 Small areas of bare ground (1-5m^2) were present where the ground had been poached by livestock; particularly in the southeast of site.

Fauna

Bats

4.9 SER provided several records of bat species within 2km of the site.

4.10 There are no buildings on site, and none of the trees on site appeared to offer any features suitable for roosting bats such as rot holes, or cracked or split limbs although a small number had a dense covering of ivy.

4.11 The site does provide potential foraging habitat for a range of bat species however. The hedgerows are likely to be used by foraging bats, as well as for navigational flight lines, and the

presence of animal dung is likely to attract insects and so make increase the foraging potential for bats.

Badgers

4.12 SER provided records of Badger within 2km of the site. The majority of the site provides optimal foraging habitat for Badgers, but no evidence of Badger activity, such as setts, hairs, dung pits, latrines or snuffle marks, was discovered during the survey (site + 50m radius, where accessible).

Other mammals

4.13 SER provided records of Hedgehog within 2km of site. The hedgerows provide potentially suitable habitat for this species, although no suitable hibernation sites were observed on site.

4.14 SER also provided records of Brown Hare, Otter, Water Vole and Polecat within 2km of site, but the habitats present are not suitable for these species.

4.15 With regard to other mammals the whole site provides habitat with plenty of cover and as such is expected to support a good number of common small mammals.

Birds

4.16 Records of a number of bird species were provided by SER. The following were all either observed or heard on site during the survey: Robin, Magpie, Blackbird, Feral Pigeon, and Great Tit.

4.17 The site boundaries (hedgerow and trees) provide good foraging and nesting habitat for a range of common bird species; although no nests (active or inactive) were observed during inspection.

Reptiles

4.18 SER provide two records of Grass snake within 2km of site. Both records are over 10 years old, and both approx. 1.5km from site.

4.19 The site is generally unsuitable for reptiles and lacks extensive areas of scrub with open basking areas typically associated with reptiles. The hedgerows provide the only potential cover and foraging habitat. Potential refugia within the hedgerows were inspected by endoscope and soft manual methods; and no evidence of reptiles discovered. Reptiles are considered likely absent from site.

Amphibians

4.20 SER provided records of Great crested newt (GCN) within 2km of the site. No standing or running water was present on site at the time of the survey; nor likely even during extreme rainfall

4.21 Three ponds are present within 500m of site; one approx. 150m southeast of site (Point E), with another approx. 165m southwest (Point F), and one approx. 400m south of site (Point G).



4.22 No significant barriers to amphibian dispersal separate these ponds from the site, and so any amphibians using the ponds for breeding may inhabit the site during the terrestrial phase of their lifecycle. The ponds were subjected to a Habitat Suitability Index assessment for GCN, as shown below:

Pond ref	Point E	Point F	Point G
SI1 - Location	1	1	1
SI2 - Pond area	0.4	0.2	0.6
SI3 - Pond drying	0.9	1	0.5
SI4 - Water quality	0.67	0.33	0.67
SI4 - Shade	0.7	1	0.3
SI6 - Fowl	0.67	0.67	0.67
SI7 - Fish	0.67	1	0.33
SI8 - Ponds	0.67	0.6	0.6
SI9 - Terr'l habitat	0.67	0.33	0.33
SI10 - Macrophytes	0.8	0.6	0.3
HSI	0.70	0.59	0.49

4.23 The resulting scores classify Point E as 'Good' and Point F as 'Below average'; suggesting potential for GCN to occur within either/both of these ponds. A score of 0.49 classifies Point G as 'Poor'; suggesting a probable absence of GCN from this pond.

4.24 Whilst potential habitat for GCN in the terrestrial phase of their life cycle on site is limited, its presence coupled with the presence of suitable water bodies in the surrounding area means that there is potential for GCN to be present on site.

Invertebrates

4.25 SER provided records of Tree Bumble Bee and White Ermine within 2km of site; neither of which are particularly associated with the habitats or species found on site. 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.

Designated Sites

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

5.3 There are no statutory designated sites for bats within 5km of the site.

5.4 There are eight non-statutory sites within 2km of the site.

- Broadgatehall Drumble Local Wildlife Site
- Birchendale road verge Retained BAS
- Broadmoor Wood and Quarry Retained BAS
- Yardhouse Farm MeadowBiodiversity Alert Site
- Hollington (north-east of) Biodiversity Alert Site
- The Long Chase (east of) Local Wildlife Site
- Ferneyhill Retained BAS
- Jeffreymeadow (south of) Local Wildlife Site

5.5 The proposed development is well-removed from these designated sites, therefore no direct impacts are anticipated. The site is adjacent to residential properties, so indirect impacts are not anticipated either; particularly as the proposed development is so limited in scale.

Habitats

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

Potential Impacts of Works

5.7 The client has submitted an outline application for the erection of up to four dwellings, new vehicular access and the formation of a car park to serve St. John's Church at Land adjacent the Cross, Hollington. Should such works be undertaken, then potential impacts are likely to include the following:

5.8 Removal of grassland, hedgerows and trees may cause loss of bat foraging habitat. Loss or severance of hedgerows may affect bat commuting routes. An increase in general light levels could also affect bat foraging and commuting.

5.9 Loss of grassland, hedgerows and trees may affect birds that use the site for breeding and foraging by causing a decrease in nesting sites and food resources. Loss of these habitats may directly harm nesting birds if carried out during the breeding season (March to August inclusive).

5.10 In the event that GCN are present on site, they might be killed or injured during removal of vegetation or ground works. They would also suffer loss of habitat.

5.11 In the event that hedgehogs are present on site, they might be killed or injured during removal of vegetation or ground works. They would also suffer loss of habitat.

Recommendations

5.12 The following are general recommendations that are likely to be a minimum requirement for any future development of the site.

Bats

5.13 The habitats for foraging bats are limited within the site, and loss of grassland is unlikely to significantly impact local bat populations, particularly as any new residential development will also include gardens, which can be used by foraging bats. The plans call for the western boundary hedgerow to be severed towards its northern end. The resulting gap will need to be constrained to less than 10m, in order to avoid significant impacts on commuting routes, particularly if there are roosts in existing houses nearby. The proposals also include the planting of a length of species-rich hedgerow, which will further compensate for the minimal amount of habitat lost by this severance.

5.14 Should the proposed development involve significantly increased lighting levels and/or an increase in light-spill onto the boundaries, then there is also potential for adverse impacts upon bat commuting routes. A lighting design will therefore need to be considered at an early stage, which will need to comply with 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 sky-glow across the site.

5.15 If either of the above avoidance recommendations cannot be accommodated, then bat activity surveys would be required, in order to determine what (if any) commuting/foraging routes are present, and assess the likely impacts of the development. Given the small scale of the proposed development however, this should not be an issue, and so it is not considered necessary to conduct further surveys regarding commuting/foraging routes, as implementation of avoidance measures can be made a condition of any planning consent granted (see BS 42020:2013 section D.3.5).

5.16 It would be of conservation benefit to install artificial roosting provision for bats within the site in future (buildings and trees where suitable), in order to encourage bat diversity on site. Preference should be given to incorporating bat roosting provision into the fabric of the new buildings (e.g. 'cavity bat boxes') as these often prove most durable.

Birds

5.17 Where possible, habitats suitable for nesting and foraging birds should be retained, enhanced or created within any new development. The hedgerow and tree habitats within

the site are likely to be the most valuable to nesting birds, and should be retained as far as possible.

5.18 Nesting birds may be present in the trees and hedgerows during the bird breeding season (March to August inclusive). If vegetation removal is planned during these months, then a check for nesting birds should be undertaken by an ecologist immediately prior to such works. Any active nests that are found must not be moved until fledglings have dispersed.

5.19 It is not considered necessary to conduct further surveys regarding breeding birds, as implementation of avoidance measures can be made a condition of any planning consent granted (see BS 42020:2013 section D.3.2.1).

5.20 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/. Preference should be given to incorporating bird nesting provision into the fabric of the new buildings (e.g. 'brick boxes') as these often prove most durable.

5.21 Enhancing existing hedgerows or planting new hedgerows and shrubs within any new development can benefit birds if a wide range of native species are used. The proposals already include the planting of a length of species-rich hedgerow, which will compensate for the minimal amount of habitat lost.

Amphibians

5.22 The ponds at points E and F have been assessed as showing potential to support breeding populations of GCN. No significant barriers to amphibian dispersal separate these ponds from the site, and so consideration must be given to whether any GCN using the ponds for breeding may inhabit the site during the terrestrial phase of their lifecycle.

5.23 Whilst Natural England's standing advice recommends further surveys for sites where suitable ponds for GCN are present within 500m, their Rapid Risk Assessment Tool factors in the size of the site and its distance from ponds when considering whether or not a criminal offense is likely to occur if GCN are present within a nearby pond. Assessed against this tool, the proposed development gives an assessment result of 'Green: Offence Highly Unlikely'.

5.24 It is therefore considered that further surveys to establish the presence/absence of GCN within these ponds are not required in this instance, as even if they are present within the ponds the risk of harm to GCN from the proposed development can be adequately managed through implementation of a suitable working method statement. A GCN Method Statement (including Ecological Clerk of Works and other reasonable avoidance measures) will need to be agreed with the LPA in advance of works commencing on site (see BS 42020:2013 section D.2.1).

Hedgehogs

5.25 The surveys required to firmly establish presence or likely absence of hedgehogs on site are considered excessive, given the ease and affordability of avoiding/compensating potential impacts on this species. Hedgerow removal will need to take place under ecological supervision (in order to avoid potential for direct harm), and artificial habitat for hedgehogs ('Hogitat Hedgehog House' or similar) installed within a boundary hedgerow (in order to compensate for habitat potentially lost).

Hedgerows

5.26 The western boundary hedgerow is classified as 'Important' under the Hedgerows Regulation 1997 (Schedule 1, Part II). The removal of a hedgerow to which these Regulations apply is prohibited unless the local planning authority have received from the owner a “hedgerow removal notice” and either the authority have given written notice stating that the hedgerow may be removed; or the relevant time period for them to reply within has elapsed.

6.0 References

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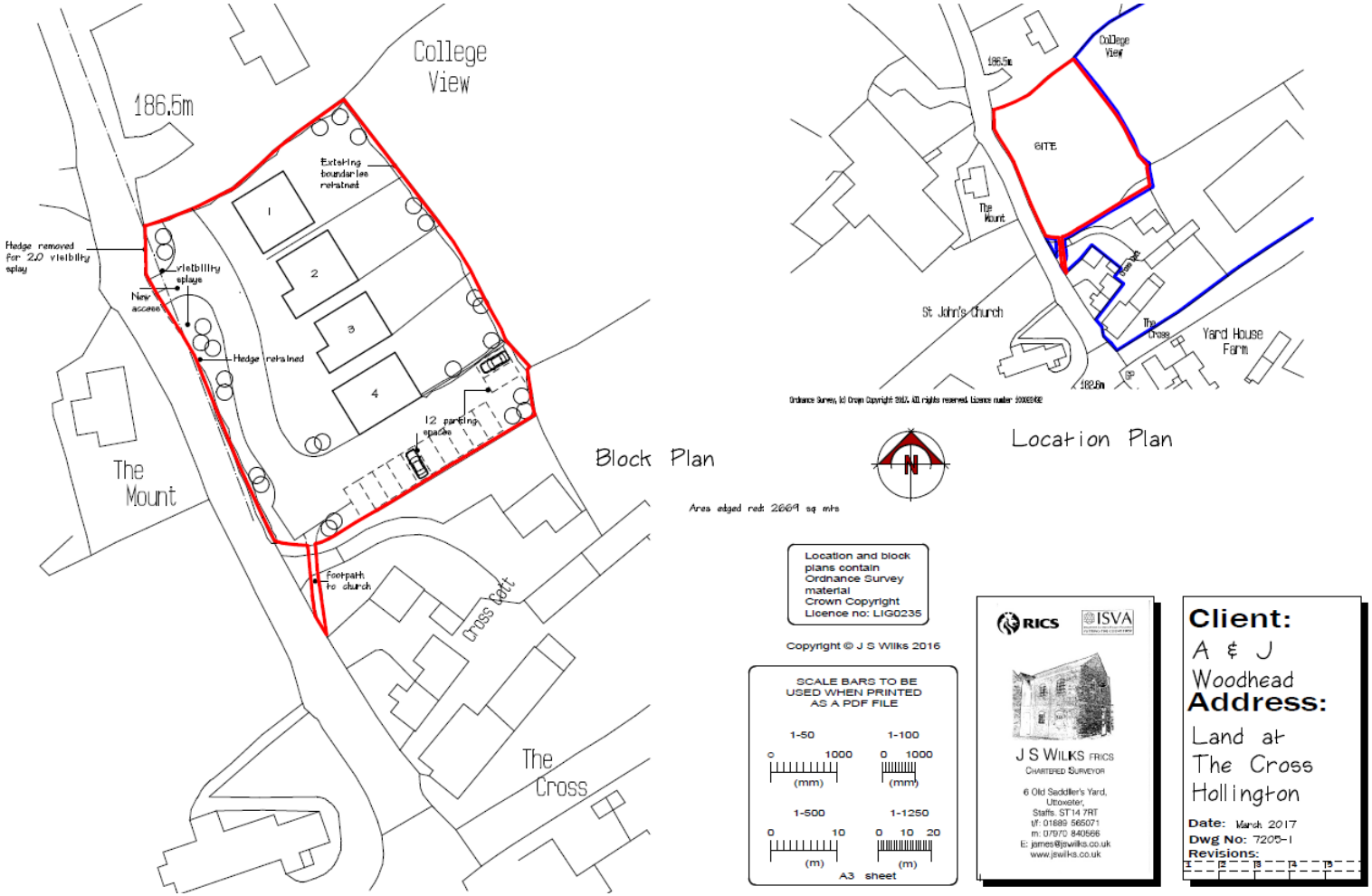
7.0 Plans

Extended Phase I Habitat Survey



Development Proposals



8.0 Photographic Plates



Image 1: Site viewed from southeast corner



Image 2: Western boundary hedgerow



Image 3: Bare ground in southeast corner of site



Image 4: Pond at Point E (southeast of site)

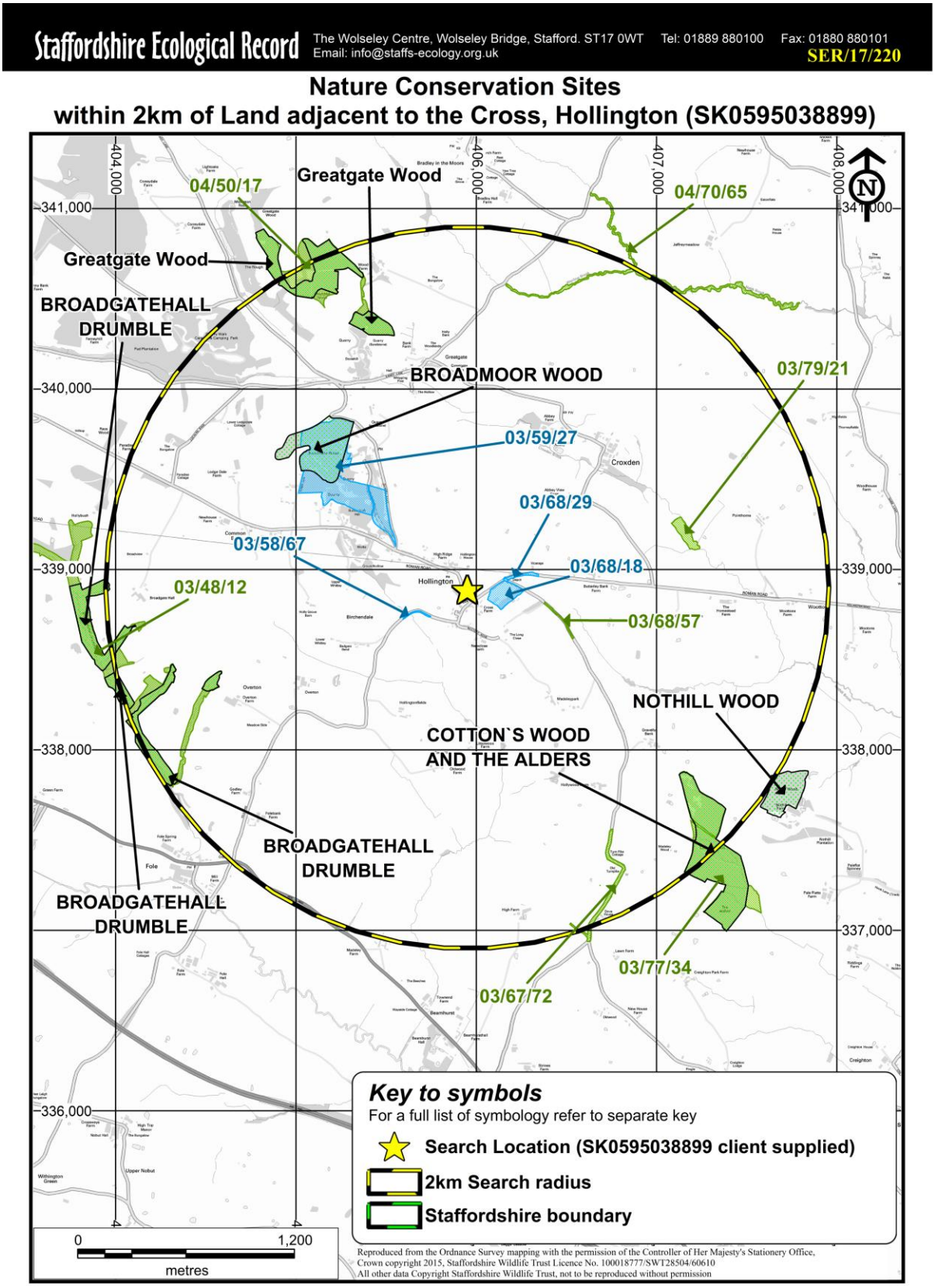


Image 5: Pond at Point F (southwest of site)



Image 6: Pond at Point G (south of site)

9.0 Pre-survey desk study



Full biological records data available upon request (not suitable for public release).