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Former Fole Dairy, Fole, Uttoxeter

Extended Phase 1 Habitat Survey

Co-operative Group

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QUALITY MANAGEMENT

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EXECUTIVE SUMMARY

- This report presents the findings of an environmental baseline study of ecology present at the former dairy located in Fole, Uttoxeter, Staffordshire (the site). This review has been commissioned by Co-operative Group and has been undertaken by WSP Environmental Ltd.
- The study has been carried out as an extended Phase 1 habitat survey following the methods laid out by the Institute of Environmental Assessment (IEA, 1995) and the Joint Nature Conservation Committee (JNCC, 2007). The assessment comprised two phases: a desk study consultation exercise and a walkover field survey which was undertaken on 14 October 2011.
- Survey work and desktop studies have identified that there are habitats present within the site boundary that have some ecological value including buildings and hedgerows although on the whole the site is of low ecological value. The adjacent mill race is also suitable habitat for both water voles and otters.
- The site has some suitable habitat for nesting birds. However, through a combination of habitat retention and good management techniques, no further surveys for this species should be required.
- The site possesses an active bat roost and further surveys for this protected species have already been undertaken, the results of which can be found in WSPE&E Report: **Former Fole Dairy – Initial Bat Survey**.
- The adjacent mill race shows no current signs of use by water voles or otters but does contain suitable habitat for both species. Further survey work for both species will be required prior to development commencing on site as it is currently unknown how the development will affect the mill race and otter and water vole specifically.

1 INTRODUCTION

1.1 Project background

1.1.1 WSP Environment & Energy (WSPE&E) was instructed by Co-operative Group in October 2011 to undertake an extended Phase 1 habitat survey (IEA, 1995; JNCC, 2007) of the former dairy facility located in Fole, Uttoxeter, Staffordshire (central Ordnance Survey Grid Reference: SK 043 373), hereafter referred to as 'the site'.

1.1.2 The aims of this study are to:

- Undertake a desk-top study to identify any existing information regarding protected species and sites with a nature conservation designation within a 2 km radius of the site, extended to 5 km for bat species and 10 km for Natura 2000 sites;
- To carry out an extended Phase 1 habitat survey to provide a description of the existing broad habitat types on the site, and to identify the presence or potential presence of any protected or notable species;
- Produce a report detailing the findings of the desk-top study and the extended Phase 1 habitat survey, including any key ecological constraints to the proposed development;
- Provide recommendations for further necessary ecological survey work and any mitigation measures required; and
- Identify any enhancement measures that may be available.

1.1.3 To fulfil the above brief, a desk study and an extended Phase 1 habitat survey were undertaken on the 14th October 2011.

1.2 Site description

1.2.1 The site is located in the village of Fole, Staffordshire, north west of Uttoxeter. The site, a former dairy facility, consists of a range of industrial buildings, of varying ages, surrounded by hardstanding with a few trees restricted to the site boundaries. Flowing along the south boundary of the site is a mill race, siphoned from the nearby River Tean. The northern boundary of site is abutted by the A522 Uttoxter Road.

1.2.2 The village of Fole only comprises a handful of other properties, mainly farm buildings, which predominantly lie north of the site. The wider surrounding landscape is dominated by agricultural land, but approximately 0.5 km north of site is an area of woodland.

1.2.3 A site location plan is provided as Figure 1.

1.3 Proposed work

1.3.1 It is the understanding of WSPE&E that development plans currently consist of approximately 60 dwellings (2- 4 beds), 300 square metres of workshop space, and conversion of the existing mill building to 300 square metres of employment.

2 METHODOLOGY

2.1 Desk study

2.1.1 A desk study was undertaken to determine the presence of any designated nature conservation sites and protected or notable species that have been recorded within a 2 km radius of the site (the study area), as recommended in the Institute of Environmental Assessment's 'Guidelines for Baseline Ecological Assessment' (1995). This radius was extended for bats (5 km), as recommended by Natural England's Bat Mitigation Guidelines, 2004, and 10 km for European Conservation Sites including: Natura 2000 sites, Special Conservation Areas (SAC), Special Protection Areas (SPA) and Ramsar Sites. This involved contacting appropriate statutory and non-statutory organisations which hold ecological data relating to the study area. WSPE&E then assimilated and reviewed the desk study data provided by these organisations.

2.1.2 The consultees for the desk study were:

- Multi Agency Geographical Information for the Countryside (MAGIC) website for statutory conservation sites;
- National Biodiversity Network Gateway website; and,
- Staffordshire Ecological Records (SER).

2.2 Extended phase 1 habitat survey

2.2.1 An extended Phase 1 habitat survey involves a combination of mapping the habitats present on the site following the JNCC's (2007) methodology; and an assessment of those habitats for their potential to support protected or notable species following guidance from the Institute of Environmental Assessment (1995). During the mapping procedure all dominant species of flora are identified along with sub-dominant species where possible. Any animals present are recorded either by direct observation or indirectly from the presence of their field signs. At all times general habitat assessments were made for the possibility of the site to support protected or notable species.

2.2.2 This survey provides information relating to the habitats found within the site perimeter as well as the potential presence of legally protected or notable species using the site. It was not possible to absolutely confirm the presence/likely absence of all protected species. In order to provide definitive information relating to these factors, several visits to the site incorporating many survey techniques at different times of year are usually required.

2.2.3 A plant species list was recorded for each broad habitat type identified, with nomenclature based on Stace (1997). This survey cannot, therefore, be considered to provide a wholly comprehensive account of the ecological interest of the site and it should be noted that this report does not constitute an Ecological Impact Assessment. The survey does, however, provide a "snapshot" of the ecological interest present on the day of the survey visit.

2.2.4 A summary of legislation relevant to the ecology of the site is included in Appendix I.

2.3 Badger

2.3.1 The survey area was searched for evidence of badger (*Meles meles)*, following the standard methodology as outlined by Harris, Creswell and Jefferies (1991). The search covered all land within the site, and up to and including a 30 m potential impact zone beyond the site boundaries.

2.3.2 Evidence of badger presence includes:

- Setts;
- Latrines;
- Prints and paths or trackways;
- Hairs caught on rough wood or fencing; and

- Other evidence including snuffle holes, feeding remains and scratching posts.

2.3.3 Where setts were recorded, their status and level of activity was noted. Sett status is broadly categorised as follows:

- **Main:** generally the largest sett within a badger clan's territory, with a relatively large number of sett entrances with well-worn pathways between them, and conspicuous spoil mounds. This type of sett will be occupied throughout the year and used for breeding;
- **Annexe:** normally found within 150m of the main sett comprising many entrances, this type of sett may not be occupied throughout the year, and can be used for breeding if there is more than one breeding sow within the clan;
- **Subsidiary:** similar to an annexe sett, but typically located further from the main sett. This type of sett will not be occupied throughout the year and lacks the well-worn paths associated with main and annexe setts; and
- **Outlier:** consisting of one or two entrances, this type of sett will be found furthest from the main sett and will only be used sporadically throughout the year.

The suitability of the existing habitats on-site, as badger breeding and foraging habitat, was assessed during the field survey.

2.4 Birds

2.4.1 Habitat within and adjacent to the site boundary was assessed for its suitability for nesting birds. Suitable habitat was taken to include:

- Arable fields;
- Buildings;
- Grassland;
- Hedgerows; and,
- Mature trees.

2.4.2 Bird species seen or heard during the survey were recorded and their activity noted but this does not constitute a full breeding bird survey although the results are indicative of the birds which could be expected to breed in the habitats present.

2.5 Otter and water voles

2.5.1 This survey involved searching for signs of otter and water vole activity within the site, and up to and including a 50m buffer upstream and downstream of the site, where access allowed, following the methodology detailed in the New Rivers and Wildlife Handbook (RSPB, NRA & RSNC, 1994) and the Water Vole Conservation Handbook (Strachan & Moorhouse, 2006). The survey concentrated on the mill race, siphoned from the River Tean, which flows along the southern boundary.

2.5.2 Due to the unlikely event of actual observation, the survey involved concentrating on locating field signs indicating otter and water vole presence or use, including spraints/latrines, footprints, feeding remains/food caches and burrows.

3 DESK STUDY

3.1 Introduction

3.1.1 All relevant ecological data received from the consultees have been reviewed, the results of which are summarised below in Sections 3.2 and 3.3. Data older than 10 years are considered to be less important than more recent data due to the length of time that has elapsed since being collected (and the chance that they are no longer valid) and have therefore been excluded from the protected species table. Full data are provided in Appendix II.

3.2 Nature conservation sites

3.2.1 Reference to the MAGIC website (www.magic.gov.uk) and the local biodiversity records centre indicate that there is one Ramsar site: Midland Meres and Mosses – Phase 1; and one Special Area of Conservation (SAC): West Midlands Mosses within 10 km of site, both are summarised in Table 3.1.

Table 3.1. Summary of European Conservation Sites within 10 km of site

Site name	Designation	Proximity to site	Description
European Conservation sites			
Midland Meres and Mosses Phase 1	Ramsar	9 km south	The Meres & Mosses form a geographically discrete series of lowland open water and peatland sites in the north-west Midlands of England. These have developed in natural depressions in the glacial drift left by receding ice sheets which formerly covered the Cheshire/Shropshire Plain. The 16 component sites include open water bodies (meres), the majority of which are nutrient-rich with associated fringing habitats; reed swamps, fen, carr & damp pasture. Peat accumulation has resulted in nutrient poor peat bogs (mosses) forming in some sites in the fringes of meres or completely infilling basins.
West Midlands Mosses	SAC	9 km south	West Midlands Mosses contains three pools, one at Clarepool Moss and two at Abbots Moss, that are examples of dystrophic lakes and ponds in the lowlands of England and Wales, where this habitat type is rare.
Key: *SAC – Special Area of Conservation* *Ramsar – Wetland of International Importance*			

3.2.2 There are no nature conservation sites with statutory protection within the 2 km study area but there are three local wildlife sites with non-statutory protection and three areas of ancient woodland. The three non-statutory sites and three areas of ancient woodland are summarised in Table 3.2.

Table 3.2. Summary of non-statutory and ancient woodland sites within 2 km of site

Site name	Designation	Proximity to site	Description
Non-statutory sites			
Upper Nobut	LWS	1.3 km south east	Upper Nobut consists of a selection of semi-natural habitats that include: a botanically diverse, alder-dominated wet woodland community, marshy grassland, running water, standing water and a narrow strip of neutral grassland assemblage.
Slang Drumble and Hell Clough	LWS	1.4 km south west	Slang Drumble and Hell Clough are two blocks of ancient semi-natural broadleaved woodland located to the northeast of Park Hall Farm, near the village of Leigh. Both woodland compartments have streams passing through and the topography of sites is very variable.
Birchendale road verge	BAS	1.9 km north east	A small roadside verge south of the village of Hollington that contains a suite of broadleaved herbs and grasses forming a neutral grassland habitat.
Ancient woodland			
Broadgatehall Drumble	ASNW	0.5 km north	No information available
Hell Clough	ASNW	1.4 km south west	The woodland supports a varied ground flora which is characteristic of ancient broadleaved woodland. Bluebells are locally abundant, as are dog's mercury and red campion. Greater stitchwort, herb bennet, yellow archangel, enchanter's-nightshade and wood-sorrel are locally frequent. The edges of the stream support a typical wet woodland
Slang Drumble	ASNW	1.5 km west	The woodland canopy is similar to that of Hell Clough. Towards the northern end of the site blackthorn is locally abundant within the shrub layer. The ground flora, as with Hell Clough, is dominated by dense stands of bluebell, with extensive swathes of creeping soft-grass, yellow archangel, wood-sorrel, wood forget-me-not, wood speedwell and enchanter's-nightshade. Greater stitchwort, wood-sedge, lords-and-ladies, ground ivy, false-brome and giant fescue appear occasionally.
Key: *LWS – Local Wildlife Site* *BAS – Biodiversity Alert Site* *ASNW – Ancient & Semi-natural woodland*			

3.3 Protected species

3.3.1 Tables 3.3 and 3.4 provide a summary of protected species recorded within a 2 km and 5 km (for bats only) radius of the site. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area. Records of UK and local Biodiversity Action Plan species (BAPs) have also been included within this table.

Table 3.3. Summary of relevant bird species and their protection within a 2 km radius of the site

Species	No. of records	Most recent record	Schedule 1 of WCA	NERC Section 41	Bird of Conservation Concern		UK BAP	Local BAP
					Red	Amber		
Skylark (*Alauda arvensis*)	2	2007	×	✓	✓	×	✓	✓
Spotted flycatcher (*Muscicapa striata*)	1	2007	×	✓	✓	×	✓	×
Bullfinch (*Pyrrhula pyrrhula*)	4	2009	×	✓	×	✓	✓	✓
Barn owl (*Tyto alba*)	2	2009	✓	×	×	✓	×	✓
Lapwing (*Vanellus vanellus*)	5	2009	×	✓	✓	×	✓	✓

Table 3.4. Summary of non-avian protected / notable species within 2 km radius the site within the last 10 years

Species*	No. of records	Most recent record	Proximity of most recent record to site	UK BAP	Local BAP
Mammals					
Water vole (*Arvicola amphibius*)	4	2002	Adjacent to site	✓	✓
Otter (*Lutra lutra*)	6	2009	0.9 km west	✓	✓
Badger (*Meles meles*)	4	2009	1.7 km south west	×	×
Daubenton's bat (*Myotis daubentoni*)	2	2004	3.7 km north west	×	×
Natterer's bat (*Myotis nattereri*)	1	2001	0.8 km west	×	×

Species*	No. of records	Most recent record	Proximity of most recent record to site	UK BAP	Local BAP
Noctule (*Nyctalus noctula*)	2	2009	3 km north east	✓	✓
Common pipistrelle (*Pipistrellus pipistrellus*)	11	2010	3.6 km north east	×	✓
Soprano pipistrelle (*Pipistrellus pygmaeus*)	1	2009	3 km north east	✓	✓

*Other species contained within the desk study data but do not have records in the last 10 years include:

Polecat (*Mustela putorius*)

Brandt's bat (*Myotis brandtii*)

Brown long-eared bat (*Plecotus auritus*)

4 FIELD SURVEY RESULTS

4.1 Introduction

4.1.1 The results of the extended Phase 1 habitat survey are presented in Section 4.2. An extended Phase 1 habitat survey plan, attached as Figure 2, illustrates the location and extent of all habitat types recorded on-site, with any notable features or features too small to map highlighted using target notes.

4.1.2 The survey was carried out on the 14 October 2011 by Tom Oliver (Consultant Ecologist). Table 4.1 details the weather conditions at the time of the survey.

Table 4.1. Weather conditions during the survey

Parameter	Condition
Temperature (°C)	14
Cloud cover (%)	50
Wind (Beaufort scale)	F1
Precipitation	None

4.1.3 Photographs of the site can be found in Appendix III and a full list of the species recorded during the survey is provided in Appendix IV.

4.2 Habitat descriptions

4.2.1 The following broad habitat types were recorded on site during the field survey:

- Buildings and structures;
- Hardstanding;
- Individual trees;
- Running water;
- Semi-improved grassland;
- Species-poor hedgerows.

4.2.2 These habitats are described below. They are ordered alphabetically, not in order of ecological importance.

Buildings and structures

4.2.3 The buildings and structures on site have been previously assessed for their potential to support bat species in February 2011, the results of which can be found in WSPE&E Report: **Former Fole Dairy – Initial Bat Survey,** which includes detailed building descriptions. Therefore, during the extended Phase 1 habitat survey focus has been placed on identifying the potential of buildings to support other protected species.

4.2.4 The open nature of many of the processing sheds, with wide doors now kept permanently open, and the large amount of vandalism that has occurred on the office buildings means that internal access for nesting birds is widely available. Nesting opportunities are also externally present with a house martin (*Delichon urbica*) nest visible on the pumping house.

Hardstanding

4.2.5 Surrounding the office and processing buildings are large expanses of hard standing composed of a mixture of concrete and tarmac. These areas have been left unmanaged since the dairy's closure and a large number of opportunistic plant species have begun to colonise cracks in the concrete with species present including: broad-leaved dock (*Rumex obtusifolius*), common nettle (*Urtica dioica*), Yorkshire-fog (*Holcus lanatus*), creeping thistle (*Cirsium arvense*), rosebay willowherb (*Chamerion angustifolium*), mugwort (*Artemisia vulgaris*), hedge mustard (*Sisymbrium officinale*) and greater plantain (*Plantago major*).

4.2.6 In more sheltered places, such as close to buildings, immature trees have begun to establish with silver birch (*Betula pendula*), goat willow (*Salix caprea*) and yew (*Taxus baccata*) all identified around the base of the processing sheds.

4.2.7 The cracks and small open areas of bare ground which lie between the hard standing areas adjacent to the mill race have been colonised by large amounts of Himalayan balsam (*Impatiens glandulifera*)

Individual trees

4.2.8 A number of mature trees are located along the top of the north bank of the mill race, both within the footprint of the dairy and in more riparian areas. Species identified include: alder (*Alnus glutinosa*), crack willow (*Salix fragilis*), beech (*Fagus sylvatica*), lime (*Tilia* sp.), ash (*Fraxinus excelsior*), sycamore (*Acer pseudoplatanus*) and aspen (*Populus tremula*).

4.2.9 These trees were briefly inspected for potential to support roosting bats with the maturity of them classified as category 3 – negligible potential to support roosting bats (Bat Conservation Trust, 2007). Some of the larger trees which overhang the watercourse appeared to be more suitable for roosting bats and have therefore been classified as category 2b – low to moderate potential to support roosting bats.

Running water

4.2.10 Flowing west to east immediately adjacent to the southern boundary of site is a narrow mill race. Siphoned from the River Tean approximately 300m west of site and re-joining the river approximately 70m east of Fole Bridge the watercourse appears to have been originally created to power a mill wheel located in the former mill/engineering building.

4.2.11 The channel which guides the water, from the point which it leaves the main river, is narrow and straight increasing the water flow velocity compared to the natural meandering flow of the original river. A sluice gate is located halfway along the section adjacent to the site below which the water flows at a constant but increased pace.

4.2.12 Much of the north bank of the mill race is constructed from stone and brick, with a shear face up to the dairy above, which has limited substrate deposition and marginal plant growth along the bank. The southern edge of the watercourse is not reinforced and constitutes a more natural bank which varies in gradient along the 700m section surveyed. However the adjacent land is heavily grazed by livestock leaving the bank consisting of a mixture of short grass and tall ruderal plants such as common nettle and broad-leaved dock.

4.2.13 Above the sluice gate, where the flow velocity is reduced, in-channel deposition has created some areas of marginal vegetation which include water mint (*Mentha aquatica*), water-cress (*Rorippa nasturtium-aquaticum*), yellow iris (*Iris pseudacorus*), bulrush (*Typha latifolia*) and common reed (*Phragmites australis*). Aquatic flora is present with water starwort (*Callitriche* sp.) identified during the survey.

Semi-improved grassland

4.2.14 The 'grounds' to the former workers social/recreational building on the opposite side of the lane to the main mill building is an area of semi-improved grassland which has been left unmanaged. Swards are generally dominated by red fescue (*Festuca rubra*) with frequent annual meadow-grass (*Poa annua*) with lesser amounts of perennial ryegrass (*Lolium perenne*) and. A few common forb species were identified within the swards including white clover (*Trifolium repens*), daisy (*Bellis perennis*), ribwort plantain (*Plantago lanceolata*) and dandelion (*Taraxacum officinale* agg.).

Species-poor hedgerows

4.2.15 Two species-poor hedgerows are located on site along the north and west boundaries respectively. The hedgerow along the north boundary consists exclusively of Leyland cypress trees (*X Cupressocyparis leylandii*) which were likely to have been planted as visual landscape screening as well as an aid to noise reduction sometime during the dairy's operational phase.

4.2.16 The other species-poor hedgerow forms part of the western boundary of site and is dominated by hawthorn (*Crataegus monogyna*) with smaller amounts of ash, elder (*Sambucus nigra*) and holly (*Ilex aquifolium*). The ground flora underneath the main hedgerow canopy is also limited with bramble (*Rubus fruiticosus* agg.), creeping thistle, common nettle and broad-leaved dock dominating.

4.3 Protected species

4.3.1 During the field survey the presence of faunal species was surmised through direct and indirect (e.g. field signs) observation and mapped as target notes on the extended phase 1 plan.

Amphibians

4.3.2 No direct or indirect evidence of any amphibians was observed at the site. The site has very limited terrestrial habitat to support amphibians, including great crested newts (*Triturus cristatus*) (GCNs), as the buildings and hardstanding offer very little suitable habitat.

4.3.3 There are no static water bodies on site or within 500m, major barriers to dispersal (the mill race and the A522 Uttoxeter Road) are present on the north and south sides of site and there are no records of great crested newt within 2km of site.

Badgers

4.3.4 No direct or indirect evidence (including setts, latrines, footprints or hairs) of badgers using the site was found either within the application boundary or in any of the accessible areas immediately adjacent to the site.

Bats

4.3.5 A detailed building inspection for bats was completed in February 2011, with follow up emergence surveys completed in August 2011 the details of which can be found in WSP Reports: **Former Fole Dairy – Initial Bat Survey** and **Former Fole Dairy –Bat Emergence Survey**. Following these surveys it has been identified that the engineering building or old mill is an active bat roost and will require a development licence from Natural England in order to be developed or altered in any way.

Birds

4.3.6 A small number of birds were encountered during the survey. A full list of the species is provided in Appendix IV. The buildings and hedgerows present on site have the potential to support nesting birds, with an old house martin (*Delichon urbica*) nest present on the pump house building and other suitable foraging habitat located around site.

Otter

4.3.7 No direct or indirect evidence of otters was found along the banks of the mill race. Despite the lack of evidence the watercourse has some limited potential to support otters with holts and quiet hide out areas present in some of the large tree roots and shaded undergrowth within the site. However, the water course doesn't appear to offer a large food resource which is likely to be more plentiful in the River Tean.

4.3.8 The record search indicated the presence of otters along the River Tean in close proximity to site within the last 2 years suggesting that otters may pass through or use the mill race.

Reptiles

4.3.9 No direct or indirect evidence of any reptiles was observed at the site. The site has very limited terrestrial habitat to support reptiles as the buildings and hardstanding offer very little suitable habitat.

4.3.10 Major barriers to dispersal are present to the north and south of site (the mill race and the A522 Uttoxeter Road), there is little suitable habitat for reptiles in the immediate are and there are no records of reptiles within 2km of site.

Water voles

4.3.11 No direct or indirect evidence of water vole was found along the banks of the mill race. The fast flowing water and lack of backwaters suggests that the water course may be too fast flowing to support water voles; however, suitable banks for burrows and good feeding resources are present.

4.3.12 Unconfirmed records of water vole have been identified within the mill race but these are now over 8 years old.

5 EVALUATION AND RECOMMENDATIONS

5.1 Nature conservation sites

5.1.1 There are two European conservation sites within 10 km of site, located 9 km south of site, but no statutory nature conservation designations within 2 km of site. However, there are three non-statutory sites within 2 km, two of which are designated as ancient woodland. The closest of these non-statutory sites, Upper Nobut Local Wildlife Site, is located approximately 1.3 km south east.

5.1.2 It is therefore considered that the proposed works will not impact upon any statutory nature conservation sites due to the large intervening distances between any sites and the proposed works area and also because the zone of influence of the likely impacts during construction and operation are likely to be limited to the curtilage of the site or very close to the site.

5.1.3 Therefore no recommendations are made with respect to the identified conservation sites

5.2 Habitats

5.2.1 The ecological importance of the habitats present on site is assessed against their presence in the United Kingdom (UK) and Local Biodiversity Action Plans (BAPs) and on Section 41 of the NERC Act and their ability to support protected or notable species. Those habitats which meet any of these criteria and are considered likely to be impacted by the proposals are highlighted as notable considerations.

5.2.2 The areas of hard standing are generally accepted to be of low ecological value.

5.2.3 The semi-improved improved grassland and tall ruderal plants which have colonised the area of bare ground surrounding the hard standing may provide suitable habitat for a small number of commonly occurring invertebrates as well as potential foraging habitat for bats and birds.

5.2.4 The buildings on site vary in potential to support protected species, particularly roosting bats and breeding birds. Specific recommendations relating to these groups are outlined below.

5.2.5 The mature trees located along the southern boundary of site have all been classified category 2b or 3 - trees with low to moderate and negligible potential to support bats (Bat Conservation Trust, 2007). They could also be used as perches or nesting habitat for birds.

5.2.6 The species-poor hedgerows have value in potentially supporting breeding birds.

5.3 Protected and notable species

Amphibians

5.3.1 The presence of great crested newts, or other amphibians, is not anticipated on site as the site contains unsuitable terrestrial habitat for great crested newts and there is no suitable breeding habitat on site or within 500m. In addition there are no known records of great crested newt within a 2km radius of site.

5.3.2 Therefore, no further surveys or mitigation for GCNs are recommended.

Badgers

5.3.3 No direct or indirect evidence of badgers using the site was found on site or in any of the accessible areas immediately adjacent to the site (up to 50m), including setts, latrines, footprints or hairs. In addition the site has very poor habitat for badgers as the majority of site is covered in buildings and concrete.

5.3.4 Therefore, no further surveys or mitigation for badgers are recommended.

Bats

5.3.5 Previous surveys have identified an active bat roost located within the old engineering building, which supports brown long-eared (*Plecotus auritus*) and common pipistrelle bats (*Pipistrellus pipistrellus*). All other buildings on site have low or negligible features to support bats. Details on bat specific recommendations can be found in WSP Reports: **Former Fole Dairy – Initial Bat Survey** and **Former Fole Dairy – Bat Emergence Survey**.

Birds

5.3.6 The NBN Gateway website and desk study from SER recorded the presence of a variety of bird species within the vicinity of the site including species associated with a range of habitats including farmland. The field survey further identified a small number of common birds. Without adequate mitigation measures the clearance of vegetation and buildings has the potential to impact bird species both directly by destroying nests actively being used or indirectly by destroying foraging habitat

5.3.7 The following recommendation has been made with regards to birds:

- **Birds.** The site provides potential bird breeding habitat which could be adversely impacted by clearance activities. All nesting birds are protected under the Wildlife and Countryside Act (1981) as amended which makes it illegal to kill, injure or take any wild bird or take, damage or destroy the nest or eggs of any wild bird. It is therefore recommended that any clearance works are undertaken outside of the bird breeding season (i.e. clearance activities are best carried out between September and February). If clearance works are planned between March and August it is recommended that vegetation and buildings are checked immediately prior to removal by a suitably qualified ecologist. Any active nests identified must be retained with a 5m buffer until such time as the nest is deemed, by a suitably qualified ecologist, to be no longer supporting young. Artificial nesting sites, such as a variety of nest boxes, can be provided on the retained mature trees and swallow and swift (*Apus apus)* boxes installed on new buildings to replace those lost inside the buildings and provide nesting sites for these declining species.

Himalayan balsam

5.3.8 Large stands of Himalayan balsam have been identified on site, mainly contained to the mill race corridor, and the following recommendation should be followed with regards to its removal:

- **Himalayan balsam**. Himalayan balsam is a non-native, invasive weed and will require removal from site prior to development taking place. Advice from a specialist remediation company should be sought with regard to eradication techniques but basic control measures should aim to remove any plants before flowering, and are best carried out before June for maximum effectiveness.

Otters and water voles

5.3.9 No evidence of water voles or otters was identified during a detailed inspection of the mill race. However, both species have historically been recorded in close proximity to the site.

5.3.10 Both otters and water voles are fully protected under Wildlife and Countryside Act (1981) as amended. This legislation makes it an offence to: intentionally injure, kill or take these species; intentionally or recklessly damage, destroy or obstruct any places these species use for shelter and protection; possess or trade species (dead or alive), or any part of them. Otters are also classed as European Protected Species under the Conservation of Habitats and Species Regulations 2010, adding disturbance to the offences.

5.3.11 As plans for the site are still at the masterplanning stage it is still unknown how the development will affect the existing mill race and the potentially present otter and water voles. It is understood by WSPE&E that the stream, which is currently culverted and crosses underneath the dairy, is to be opened and used as an amenity space. If managed correctly this course of action could create a net gain for riparian biodiversity within the site.

5.3.12 As a timetable for development is still to be finalised the following recommendation has been made:

- **Riparian mammals**. While not thought to be currently present, as otter and water vole are very mobile species which can quickly colonise new areas, and given the presence of suitable habitat along the mill race, it is recommended that a riparian mammal survey is repeated prior to development commencing on site so that any mitigation measures (if required) can be incorporated into the proposals.

Reptiles

5.3.13 The site offers very little suitable habitat for reptiles and it is isolated in context to suitable reptile habitat in the wider landscape. In addition, no reptile species were recorded in the desk study.

5.3.14 Therefore no further surveys for reptiles are considered necessary.

6 CONCLUSIONS

6.1.1 Field survey work and desk studies have identified that there are some habitats on site that have potential ecological value, including buildings and hedgerows.

6.1.2 The site has suitable habitat for bats and breeding birds. However, further surveys for these groups are not considered necessary for the following reasons:

- **Bats.** Further surveys have already been completed for this species the results of which can be found in WSPE&E Report: **Former Fole Dairy –Bat Emergence Survey.**
- **Breeding birds**. While the site has suitable habitat for breeding birds the proposals are only likely to have a temporary and reversible negative impact on habitat suitable for foraging birds. With appropriately timed works (i.e. vegetation clearance undertaken between September and February) no nesting birds or their nests or eggs will be damaged or destroyed and any disturbance to the habitat suitable for foraging birds will be mitigated following the works. Therefore further surveys are not required provided the mitigation measures are applied.

6.1.3 The site also has suitable habitat for otters and water voles. The following recommendation is made regarding these species:

- **Riparian mammals**. While not thought to be currently present, as otter and water vole are very mobile species which can quickly colonise new areas, and given the presence of suitable habitat along the mill race, it is recommended that a riparian mammal survey is repeated prior to the finalisation of any detailed design so that any mitigation measures (if required) can be incorporated into the proposals.

6.1.4 The current site masterplan will incorporate a large amount of new green infrastructure into the site including: additional tree planting, open green space for public use, the reinstatement of the existing water culvert which flows beneath the site, as well as residential gardens. This increase in green infrastructure is likely to produce an overall net gain for biodiversity across the site.

6.1.5 The baseline conditions described in this report are accurate for the time at which the survey was undertaken. If no works are undertaken within the next year then it is recommended that an update survey is undertaken to determine any changes to the baseline conditions described here.

7 REFERENCES

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8 FIGURES

Site Location Plan

Scale @ A3 :1:20,000

Figure 1

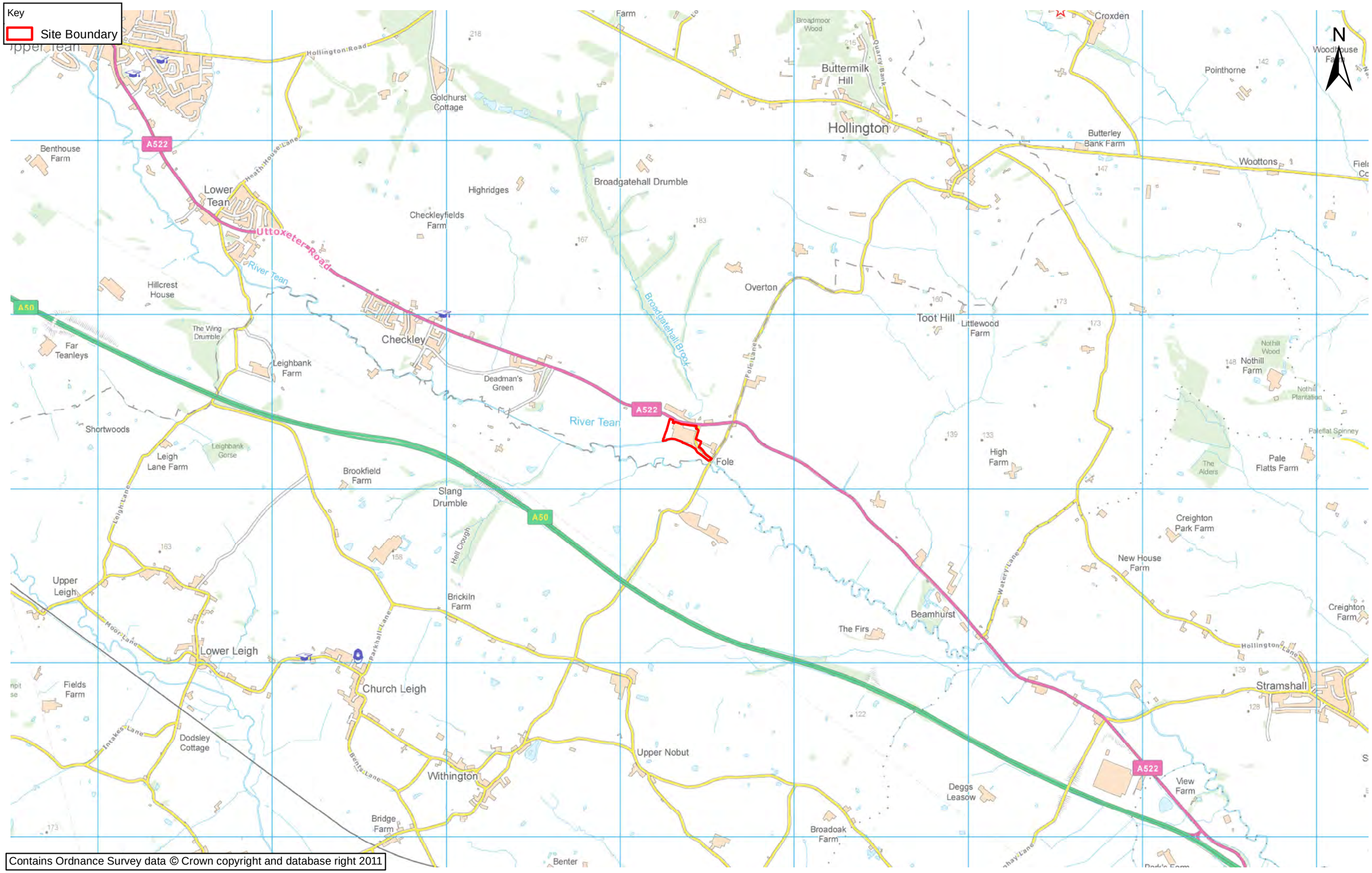

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FIGURE 2 – EXTENDED PHASE 1 HABITAT MAP

Target notes:

1. The majority of site is covered in concrete slabs with negligible potential for wildlife; however, some plant species are managing to grow between the cracks in the hardstanding.

2. A long line of Leylandii trees screen the buildings from adjacent residential buildings and the road.

3. A disused house martin nest is located on the northern side of this building.

4. Large stands of Himalayan balsam are located along the northern bank of the mill race, particularly at points 4.

5. The engineering / old mill building is an active bat roost.

6. The water along the mill race, particularly downstream from the sluice gate, is fast flowing with little in stream aquatic vegetation; however, some small backwaters have formed on the south side of the stream where cattle use the stream for water.

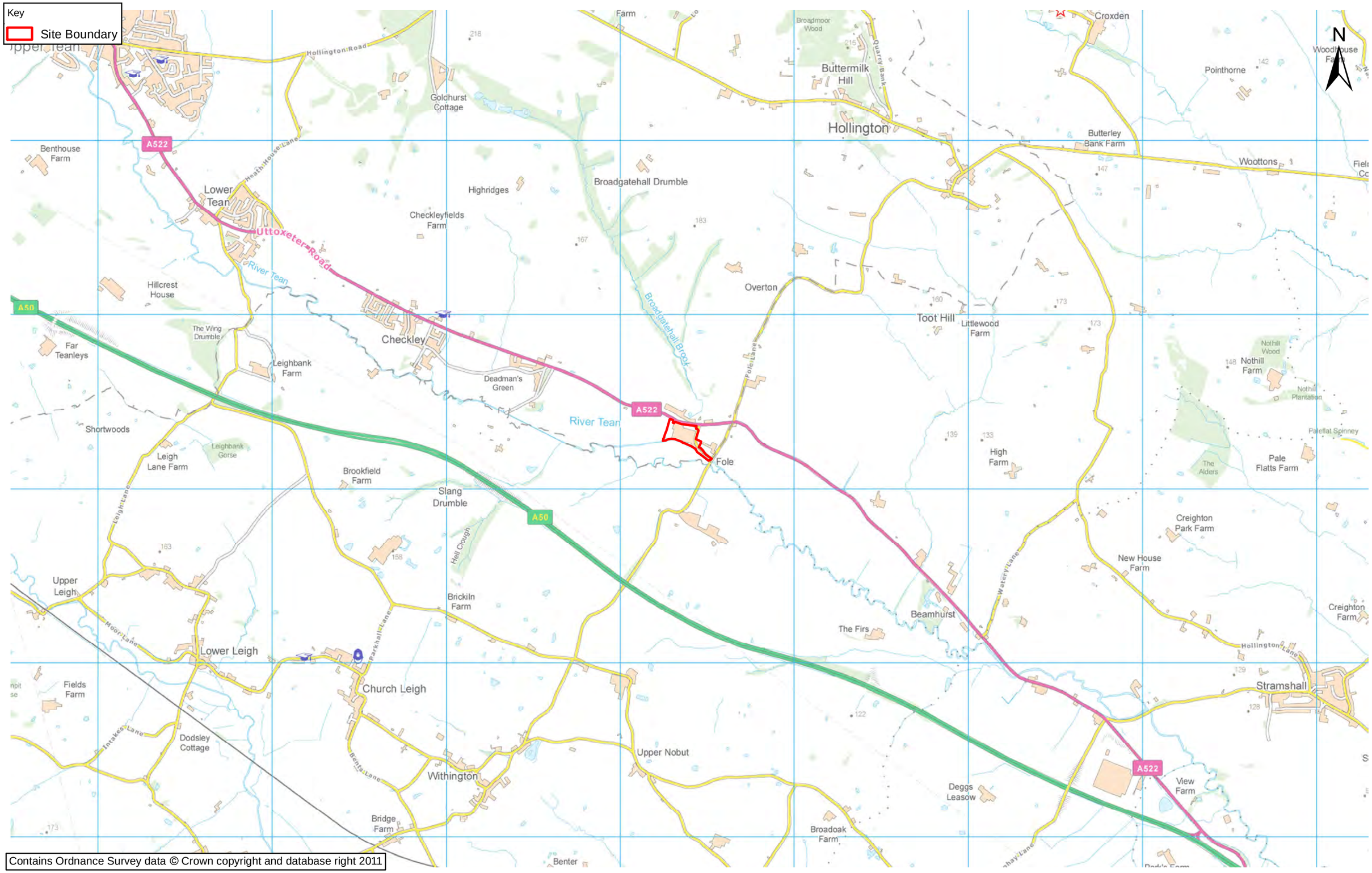
7. The stream shows no evidence of current water vole or otter use. There is little marginal vegetation with species mainly consisting of tall ruderals and bramble on the northern banks and short sward grassland (regular grazed by cattle) on the southern bank.

8. The northern banks of the mill race are reinforced with concrete and brick providing very few opportunities for borrowing riparian mammals.

Site Location Plan

Scale @ A3 :1:20,000

Figure 1



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9 APPENDICES

Appendix 1 Relevant legislation

Appendix 2 Desk study data

Appendix 3 Site photographs

Appendix 4 Site species information

APPENDIX 1 – RELEVANT LEGISLATION

General legislation and policy overview

This section provides an overview of the framework of legislation and policy which underpins nature conservation and is a material consideration in the planning process in England.

The Conservation of Habitats and Species Regulations 2010

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. The 1994 Regulations transposed Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law.

Conservation of habitats and habitats of species

The regulations place duty upon the relevant authority of the UK government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states. The regulations also place a duty upon the UK government to maintain a register of European protected sites designated as a result of EC Directive 79/409/EEC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000.

Protection of species

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

Adaptation of Planning and Other Controls

The Regulations require competent authorities to consider or review planning permission, applied for or granted, affecting a European site, and, subject to certain exceptions, restrict or revoke permission where the integrity of the site would be adversely affected. Equivalent consideration and review provisions are made with respects to highways and roads, electricity, pipe-lines, transport and works, and environmental controls (including discharge consents under water pollution legislation). Special provisions are also made as respects general development orders, special development orders, simplified planning zones and enterprise zones.

The Wildlife and Countryside Act (WCA)1981

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive.

It complements the The Conservation of Habitats and Species Regulations 2010 offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs). Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species. All relevant species specific legislation is detailed later in this Appendix.

The Countryside and Rights of Way (CRoW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs.

The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These species and habitats are a material consideration in the planning process.

UK Biodiversity Action Plan

The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, is a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contains a list of priority habitats and species of conservation concern in the UK, and outlines biodiversity initiatives designed to enhance their conservation status. Lists and Broad and Local habitats are also included. The priority habitats and species correlate with those listed on Section 74 of the CRoW Act and Section 41/42 of the NERC Act.

The UKBAP requires that conservation of biodiversity is addressed at a County level through the production of Local BAPs. These are complimentary to the UKBAP, however are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs.

UKBAP and Local BAP targets with regard to species and habitats are a material consideration in the planning process.

Planning Policy Statement 9

Planning Policy Statement 9 provides guidance to local authorities regarding the protection of biodiversity and geology through the planning system in England. Key principles relating to biodiversity include:

- Development plan policies and planning decisions should be based upon up-to-date information about the environmental characteristics of their areas. These characteristics should include the relevant biodiversity and geological resources of the area. In reviewing environmental characteristics local authorities should assess the potential to sustain and enhance those resources.
- Plan policies and planning decisions should aim to maintain, and enhance, restore or add to biodiversity and geological conservation interests. In taking decisions, local planning authorities should ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; and to biodiversity and geological interests within the wider environment.
- Plan policies should promote opportunities for the incorporation of beneficial biodiversity and geological features within the design of development.

National planning policy is implemented through local and regional planning policies.

Species specific legislation

Bats

Bats and the places they use for shelter or protection (i.e. roosts) are protected under both European Law (The Conservation of Habitats and Species Regulations 2010) and UK law (the Wildlife and Countryside Act (WCA) 1981). This protection means that bats, and the places they use for shelter or protection, are a material consideration in the planning process.

European Protection

The Conservation of Species and Habitats Regulations 2010, states that a person commits an offence if they:

- deliberately captures, injures or kills a bat;
- deliberately disturbs bats; or,
- damages or destroys a bat roost (breeding site or resting place).

It is an offence for any person to:

- have in his possession or control;
- to transport;
- to sell or exchange; or
- to offer for sale,

any live or dead bats, part of a bat or anything derived from bats which has been unlawfully taken from the wild. A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months and/or to a fine not exceeding level 5 on the standard scale.

UK Protection

Whilst broadly similar to the above legislation, the following differences occur:

- Section 9(1) of the WCA 1981 (as amended) makes it an offence to intentionally (rather than deliberately) kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to intentionally or recklessly* damage or destroy, or obstruct access to, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to intentionally or recklessly* disturb any protected species while it is occupying a structure or place which it uses for shelter or protection.

*Reckless offences were added by the Countryside Rights of Way Act 2000.

Birds

The Wildlife & Countryside Act 1981 (as amended) makes it an offence to “take, damage or destroy the nest of any wild bird while it is in use or being built” and to “take or destroy the eggs of any wild bird”. Under The Wildlife & Countryside Act 1981,

all wild birds, their nests and eggs are protected by law, with some rare species afforded special protection. There are however, obvious exceptions for wildfowl, game birds and some pest species. Though these laws were originally developed to prevent egg stealing and cruelty to wild birds, its modern interpretation also relates to the activities of land managers and developers.

In summary, it is an offence to:

- Recklessly kill, injure or take any wild bird;
- Take or recklessly damage or destroy the nest of any wild bird while it is in use or is being built;
- Take or recklessly destroy the egg of any wild bird; and
- Recklessly disturb any wild bird listed on Schedule 1 of the Act whilst it is nest building or is at (or near) a nest with eggs or young, or disturb the young of such a bird.

Badgers (*Meles meles*)

Badgers and their setts are protected under the Protection of Badgers Act 1992, which makes it illegal for any person to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a badger's sett, or to disturb animals whilst within a sett. The Act defines a sett as 'any structure or place which displays signs of current use by a badger.' Setts are defined by English Nature (1995) as 'usually underground tunnel systems providing shelter for badgers, but may include other structures used by badgers such as hay bales, drainage culverts, or cellars.' In June 2009 Natural England produced guidance on what is deemed 'current use' with the report concluding that a sett may become inactive within a period weeks, but that other freshly found field signs should be a major deciding factor.

The likelihood of disturbing a badger sett, or adversely affecting badgers' foraging territory or links between them, or significantly increasing the likelihood of road casualties amongst badger populations, are capable of being material considerations in planning decisions (PPS 9, 2005).

Invasive weeds

Schedule 9 of the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) makes it an offence to plant or otherwise cause species such as Japanese knotweed *Fallopia japonica*, small-leaved cotoneaster *Cotoneaster microphyllus* to grow in the wild.

Reptiles

All of the UK's native reptiles are protected by law and are included in the UK Biodiversity Action Plan. The two rarest species – sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* benefit from the greatest protection.

Common lizard *Lacerta vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix natrix* are protected under the Wildlife and Countryside Act 1981 as amended from intentional killing or injuring. Sand lizard and smooth snake are protected under the Wildlife and Countryside Act 1981 (as amended) and the The Conservation of Habitats and Species Regulations 2010 which together make it illegal to kill, injure, capture, handle or disturb these animals. Places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed. It is also illegal to obstruct these animals from using such areas.

The reader is referred to the original legislation for definitive interpretation. This is a simplified description of the legislation. In particular, the offences mentioned here may be absolute, intentional, deliberate or reckless. Note that where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.

English Nature (2004) has stated that:

"Reptiles are likely to be threatened, and the law potentially breached, by activities such as the following:

- Archaeological and geotechnical investigations
- Clearing land, installing site offices or digging foundations
- Cutting vegetation to a low height
- Laying pipelines or installing other services
- Driving machinery over sensitive areas
- Storing construction materials in sensitive areas
- Removing rubble, wood piles and other debris".

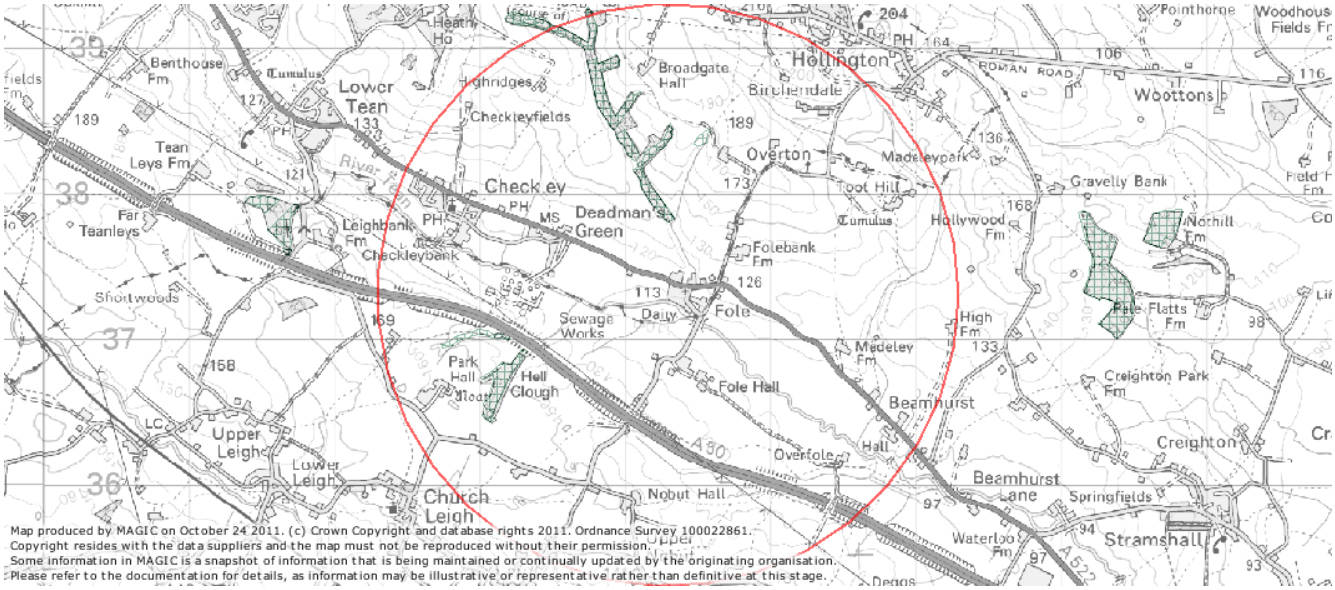
The law recognises that it is sometimes necessary to carry out work that may affect reptiles or their habitats. It has two significant concessions:

a) For all species, normally prohibited activities may not be illegal if "the act was the incidental result of a lawful operation and could not reasonably have been avoided".

In general Natural England would expect reasonable avoidance to include measures such as altering development layouts to avoid key areas, as well as capture and exclusion of reptiles.

b) For sand lizards and smooth snakes, licences may be issued for some activities (such as disturbance and capture) that would otherwise be prohibited.

APPENDIX 2 – DESK STUDY DATA



Site Check Report

Report generated on 24 October 2011.

You clicked on the point:
Grid Ref: SK 043 373
Full Grid Ref: 404300 , 337300

The following features have been found within 2,000 metres of the search point:

Ancient Woodland (England)

Grid Reference	Wood Name	Theme ID	Theme Name
SK 040 383	Broadgatehall Drumble	1104479	Ancient & Semi-natural Woodland
SK 042 379	Broadgatehall Drumble	1104479	Ancient & Semi-natural Woodland
SK 039 384	Broadgatehall Drumble	1104479	Ancient & Semi-natural Woodland
SK 030 364	Slang Druble and hell Clough	1104477	Ancient & Semi-natural Woodland
SK 031 367	Slang Druble and hell Clough	1104477	Ancient & Semi-natural Woodland

Local Nature Reserves (England)
There are no features within the search area.

National Nature Reserves (England)
There are no features within the search area.

Ramsar Sites (England)
There are no features within the search area.

Special Protection Areas (England)
There are no features within the search area.

Special Areas of Conservation (England)
There are no features within the search area.

Sites of Special Scientific Interest (England)
There are no features within the search area.

APPENDIX 3 – SITE PHOTOGRAPHS

Plate 1. Much of the site is covered in hardstanding with some plants managing to grow between the cracks in the concrete.

Plate 2. The area above the watercourse contains a mixture of self-set trees and patchy grass growing over the concrete paths.

Plate 3. Large areas of site are covered in Himalayan balsam.

Plate 4. South of the sluice gate the mill race is particularly fast flowing with no marginal vegetation.

Plate 5. Large amounts of tall ruderal vegetation cover the steeply sided northern bank, with short sward grass on the south banks.

APPENDIX IV – SITE SPECIES INFORMATION

Floral species present at site

Scientific name	Common name
Achillea millefolium	Yarrow
Alnus glutinosa	Alder
Anthriscus sylvestris	Cow Parsley
Artemisia vulgaris	Mugwort
Callitriche sp.	Water-starwort
Chamerion angustifolium	Rosebay Willowherb
Cirsium arvense	Creeping Thistle
Crataegus monogyna	Common Hawthorn
Dactylis glomerata	Cock's-foot
Dryopteris filix-mas	Male-fern
Fagus sylvatica	Beech
Festuca rubra	Red Fescue
Fraxinus excelsior	Ash
Geranium robertianum	Herb-Robert
Hedera helix	Ivy
Heracleum sphondylium	Hogweed
Holcus lanatus	Yorkshire-fog
Hypochaeris radicata	Cat's-ear
Impatiens glandulifera	Himalayan Balsam
Iris pseudacorus	Yellow Iris
Lolium perenne	Perennial Ryegrass
Malus sp.	Apple
Malva moschata	Musk-mallow
Mentha aquatica	Water Mint
Phragmites australis	Common Reed
Phyllitis scolopendrium	Hart's-tongue
Plantago major	Greater Plantain
Populus tremula	Aspen
Rorippa nasturtium-aquaticum	Water-cress
Rubus fruiticosus agg.	Bramble
Rumex obtusifolius	Broad-leaved Dock

Scientific name	Common name
Salix caprea	Goat Willow
Salix fragilis	Crack Willow
Sambucus nigra	Elder
Senecio jacobea	Common Ragwort
Sisymbrium officinale	Hedge Mustard
Symphoricarpos albus	Snowberry
Symphytum officinale	Common Comfrey
Syringa vulgaris	Lilac
Taraxacum officinale agg.	Dandelion
Taxus baccata	Common Yew
Tilia sp.	Lime
Typha latifolia	Bulrush
Ulmus sp.	Elm

Avifaunal species present (or flying over) the site

Scientific name	Common name
Columba palumbus	Woodpigeon
Corvus corone	Carrion Crow
Gallinula chloropus	Moorhen
Motacilla alba	Pied Wagtail
Motacilla cinerea	Grey Wagtail
Phasianus colchicus	Pheasant
Sturnus vulgaris	Starling