



Preliminary Ecological Appraisal

Woodville Road, Hartshorne, Derbyshire

**on behalf of
DPDS Limited**



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Prepared By

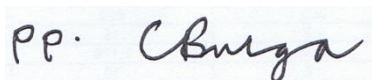


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Preliminary Ecological Appraisal

1 Introduction

- 1.1 This report has been prepared by Opus International Consultants (UK) Limited (Opus), on behalf of Development Planning & Design Services Limited (DPDS), hereafter referred to as the "client". It sets out the results of a Preliminary Ecological Appraisal for a site located off Woodville Road in Hartshorne, Derbyshire which is proposed for residential development.
- 1.2 The objective of the Preliminary Ecological Appraisal is to assess the value of habitats present at the site, in terms of both their botanical interest and whether there are any notable habitats or other features present which have the potential to support protected or notable species. This information will identify potential constraints that should be considered with respect to future development of the site and identify the need to undertake further Phase 2 ecological surveys to fully assess the impacts of the development. Recommendations for mitigation, compensation and enhancement measures are also made.
- 1.3 The Preliminary Ecological Appraisal comprised the following:
- a desk study search for biological records including notable habitats and protected species data for the site and the immediate surrounding area;
 - an Extended Phase 1 Habitat Survey to assess the habitats and features present at the site and search for evidence of protected species;
 - an assessment in relation to relevant planning policy and protected species wildlife legislation which may apply to the site.

2 The Site

2.1 Site Description and Location

- 2.1.1 The site comprises two paddocks situated to the east of Woodville Road, which lies to the south-west of the village of Hartshorne in Derbyshire. The site is approximately 0.94 ha in plan area and is located at approximate Ordnance Survey National Grid Reference SK325205. The location of the site is shown on the map within Figure 1 and an aerial photograph has been provided within Figure 2 to place the site in context.

Figure 1: Site Location Plan



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Figure 2: Site Contextual Aerial Photograph



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- 2.1.2 An Extended Phase 1 Habitat Survey of the site and the immediate surrounding area was carried out on 8th July 2015. General photographs of the site have been provided within Appendix A.
- 2.1.3 At the time of the survey, the site consisted of two paddocks which were occupied by two horses. The boundary between the two parcels of land was not defined. The only feature which indicated that the site was two parcels of land was a gate situated adjacent to the northern site boundary. An open gate along the south-eastern boundary of the site connected it to adjacent land to the south which meant that this land could also be utilised by the horses present on site. The site sloped downwards from south-east to west with a difference in ground level of approximately 4m.
- 2.1.4 The majority of the site boundary was composed of hedgerows (approximately 60% of the boundary). However, the north-eastern, north-western and south-western boundaries were formed by fences. Access to the site can be gained to the north-eastern corner of the site via a track off Woodville Road.

2.2 Neighbouring Land Use

- 2.2.1 Woodville Road (the A514) is located to the immediate west of the site beyond which are arable fields. Residential properties are situated to the south-west and north of the site. A stable building with a manure pile is situated to the immediate north-east of the site. Arable fields are present to the east of the site. A further horse paddock is present to the immediate south of the site and arable fields are present beyond this.
- 2.2.2 The site is connected to the wider landscape by a well-connected hedgerow network. There is a dry ditch approximately 80m south of the site. Woodland is present approximately 230m south and 415m east and south-east. The nearest watercourse is an unnamed drain located approximately 560m south of the site. A further watercourse and two large ponds are situated approximately 650m north-east of the site.

2.3 Proposed Development

- 2.3.1 The proposed development comprises the construction of fourteen detached and semi-detached residential properties with garages and gardens. A new road will be constructed off Woodville Road. It appears that the easternmost part of the site will be retained as a paddock and a new hedgerow with trees will be planted to separate the development from the paddock. Proposed Development Layouts are shown in Appendix B.
- 2.3.2 It is anticipated that at least part of the hedgerow which forms the western boundary of the site will need to be removed to allow the construction of the new access road. It is assumed that all remaining hedgerows which currently form the boundaries of the site will remain intact and undisturbed as part of the development and during the development of the site.

3 Legislative and Policy Context

3.1 Legislation

3.1.1 The following legislation may be of particular relevance to this assessment.

Conservation of Natural Habitats and Species Regulations, 2010

3.1.2 These regulations provide legislative protection for certain species (including great crested newts (*Triturus cristatus*) and bats), as well as protection for certain designated sites (including Special Areas of Conservation and Special Protection Areas).

3.1.3 For European Protected Species (EPS), it is an offence to deliberately:

- capture, kill or injure EPS, or remove or destroy eggs/young;
- disturb EPS whilst occupying breeding or resting places;
- damage, destroy or obstruct access to EPS breeding or resting places whether occupied or unoccupied.

3.1.4 Disturbance of animals includes in particular any disturbance which is likely:

(a) to impair their ability -

(i) to survive, to breed or reproduce, or to rear or nurture their young, or

(ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate;
or

(b) to affect significantly the local distribution or abundance of the species to which they belong.

Wildlife and Countryside Act, 1981 (as amended) and the Countryside and Rights of Way Act, 2000

3.1.5 This provides UK legislative protection for certain species including Schedule 1 birds, Schedule 8 plants, nesting birds, Schedule 5 animals including reptiles as well as all European Protected Species, prohibits the spread of Schedule 9 invasive non-native species and provides a mechanism for the designation and protection of Sites of Special Scientific Interest (SSSIs).

3.1.6 For birds, it is an offence to intentionally or recklessly:

- capture, kill or injure Schedule 1 birds; remove or destroy eggs/young, damage, destroy or obstruct access to nests, disturb such a bird while it is building a nest or in, on or near a nest containing eggs or young or disturb dependent young of such a bird;
- capture, kill or injure all wild birds, remove or destroy eggs or young or damage, destroy or interfere with or obstruct access to nests that are in-use or being built.

3.1.7 For protected animals, it is an offence to intentionally or recklessly:

- kill or injure, or destroy eggs/young;
- capture*, or remove eggs/young;
- disturb* whilst occupying breeding or resting places;
- damage, destroy or obstruct access to breeding or resting places whether occupied or unoccupied.

*Excludes common reptiles (i.e. adder (*Vipera berus*), common lizard (*Zootoca vivipara*), grass snake (*Natrix natrix*) and slow worm (*Anguis fragilis*)).

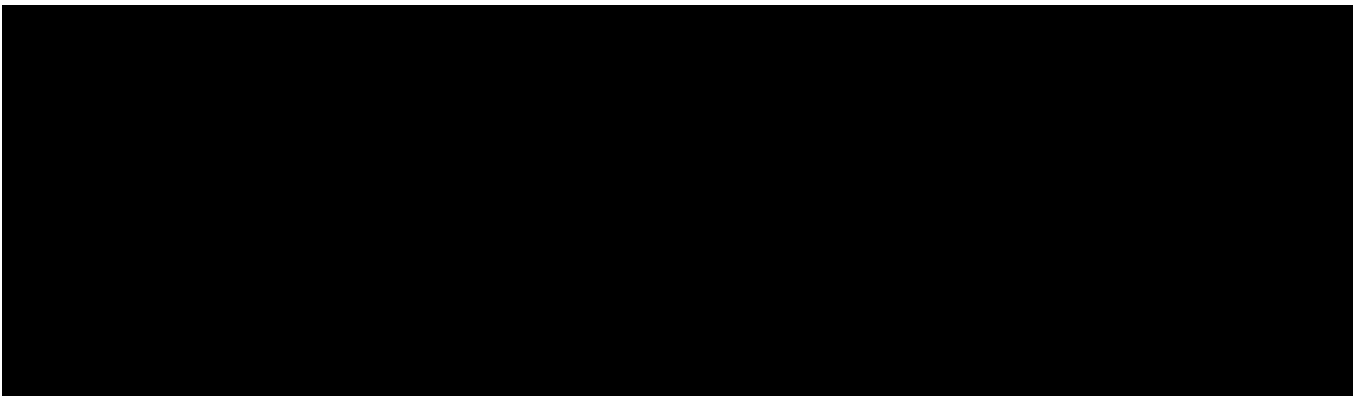
3.1.8 For lower (i.e. mosses, liverworts, lichens and fungi) and higher wild plant species, it is an offence to intentionally or recklessly:

- pick, uproot or destroy any wild plant included in Schedule 8; or
- not being an authorised person, uproot any wild plant not included in that Schedule.

3.1.9 For invasive non-native species of flora, it is an offence to plant or otherwise cause to grow Schedule 9 plants such as Japanese knotweed (*Fallopia japonica*) in the wild.

Natural Environment and Rural Communities Act, 2006

3.1.9 This Act places a duty on public bodies to consider enhancement of biodiversity within all of their actions. In addition, this Act provides for those species identified within the UK Biodiversity Action Plan (UKBAP) and the relevant Local Biodiversity Action Plans (LBAPs) to be considered as biodiversity conservation priorities.



Hedgerow Regulations, 1997

3.1.11 These regulations provide a framework for the protection of hedgerows of value in terms of various criteria, including the 'Wildlife and Landscape' criteria which relate to ecological features. They exclude hedgerows less than 30 years old.

3.2 National Planning Policy Framework

3.2.1 This report has been prepared with consideration to the recommendations and principles set out in the National Planning Policy Framework (NPPF), 2012.

3.2.2 The NPPF sets out the Government's objectives for planning in regard to the protection of habitats and biodiversity. The planning objectives in relation to biodiversity and the natural environment are stated within paragraph 109 of the NPPF and are as follows:

"The planning system should contribute to and enhance the natural and local environment by:

- *protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *recognising the wider benefits of ecosystem services;*
- *minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;"*

3.2.3 Within the NPPF (paragraph 165), the planning policy context requires that:

"Planning policies and decisions should be based on up to date information about the natural environment and other characteristics of the area including an assessment of existing and potential components of ecological networks. A sustainability appraisal which meets the requirements of the European Directive on strategic environmental assessment should be an integral part of the plan preparation process, and should consider all the likely significant effects on the environment, economic and social factors".

3.2.4 In addition to the above, the NPPF (paragraph 7) states that:

"There are three dimensions to sustainable development: economic, social and environmental." The environmental role includes "contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity....".

3.2.5 These planning considerations are relevant to all developments irrespective of the size and will apply to any development on the site being assessed.

3.3 UK Biodiversity Action Plan

3.3.1 The UK Biodiversity Action Plan (UKBAP) includes objectives to conserve, and, where practicable, enhance:

- *'the quality and range of wildlife habitats and ecosystems;*
- *the overall populations and natural ranges of native species;*
- *internationally important and threatened species, habitats and ecosystems;*

- *species, habitats and natural and managed ecosystems characteristic of local areas; and*
- *biodiversity of natural and semi-natural habitats where this has been diminished over recent decades.'*

3.3.2 UK BAP priority species and habitats were identified as being the most threatened in the UK requiring conservation action under the UK BAP.

3.3.3 UK BAP species include certain species of birds, reptiles, amphibians, terrestrial mammals, invertebrates, vascular plants and fungi and lichens. Effects such as habitat loss, degradation, population fragmentation, pollution and the impacts of a non-native species have led to a decline of these species.

3.3.4 UK BAP habitats cover a wide range of semi-natural habitat types including hedgerows, lowland meadows and arable field margins.

3.4 Local Biodiversity Action Plan

3.4.1 The Lowland Derbyshire Biodiversity Action Plan (2011), identifies hedgerows and lowland meadows as primary targets and arable field margins as secondary target for local BAP priority habitats in the National Forest area where the site is situated.

3.4.2 The local BAP identifies all common species of reptiles, common toad (*Bufo bufo*) and great crested newts as priority species, together with several species of invertebrates and birds including house sparrow (*Passer domesticus*). Terrestrial mammals on the local priority species list include brown hare (*Lepus europaeus*), hedgehog (*Erinaceus europaeus*) and three species of bat namely noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*) and soprano pipistrelle (*Pipistrellus pygmaeus*).

4 Ecological Appraisal Methodology

4.1 General

- 4.1.1 The Preliminary Ecological Appraisal has been undertaken in accordance with the principles outlined in the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (2012).
- 4.1.2 Species are referred to in the text using their common names and scientific names initially and then only their common name. Nomenclature of floral species follows Stace (2010).

4.2 Desk Study

- 4.2.1 A search for Statutory Nature Conservation sites within 5km of the site was undertaken on the Multi-Agency Geographic Information Centre (MAGIC) website.
- 4.2.2 A request for records of protected/notable species and statutory and non-statutory sites within 2km of the site was made to the Derbyshire Wildlife Trust (DWT). The response is enclosed within Appendix C.
- 4.2.3 An additional search for protected species records within the 10km square occupied by the site was also undertaken using the National Biodiversity Network (NBN) Gateway website.
- 4.2.4 The Natural England website was also consulted for information on statutory designated nature conservation sites.

4.3 Extended Phase 1 Habitat Survey

- 4.3.1 A field survey of the site was undertaken by Laura Hammerton (BSc (Hons) MSc MCIWEM ACIEEM) on 8th July 2015 using the standard Phase 1 Habitat Survey methodology (Joint Nature Conservation Committee, 1993) as adopted by Natural England. The dominant habitats within the site were identified and mapped and notable features were target noted. Dominant species of flora were listed, along with any uncommon species, or species indicative of particular habitat types but an attempt to compile an exhaustive list of all species present was beyond the scope of this report. During the field survey, any invasive non-native species of flora e.g. Japanese knotweed (*Fallopia Japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*), identified at the site were target noted.
- 4.3.2 An assessment of the potential for habitat features within the site to provide suitable breeding, shelter or foraging opportunities for protected or notable species of fauna was undertaken and any signs of the presence of such species at the site were noted.

4.4 Field Survey Background

- 4.4.1 The field survey was carried out on 8th July 2015. The weather at the time of the survey was dry with sunny spells and a moderate breeze. The temperature was approximately 15°C. Ground conditions underfoot were generally dry, however, the south-western corner of the site was water-logged.

- 4.4.2 A photographic record is included in Appendix A and an indicative species list of flora is included in Appendix D.

4.5 Limitations

- 4.5.1 It should be noted that DWT, in its response to the data request, stated that other parties held records on birds, moths and butterflies but do not submit their records to DWT.
- 4.5.2 The survey was undertaken during the optimum season for carrying out Phase 1 Habitat surveys. Although the site was subject to grazing at the time of survey, grazing intensity was sufficiently low that this did not pose a significant constraint to the identification of plant species nor the assessment of the value of the grassland fields.

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5 Results

5.1 Desk Study

Designated Nature Conservation Sites

Statutory Sites

- 5.1.1 The MAGIC website and DWT have no records of any sites with a statutory designation for nature conservation within 2km of the search area.
- 5.1.2 There is one Site of Special Scientific Interest (SSSI) and DWT nature reserve within 2km of the site as detailed in Table 2.

Table 2: Site of Special Scientific Interest

Site Name	Main Habitat	Grid Reference	Approximate Distance and Direction from Site
Carver's Rocks	Number of habitats developed on an acid soil over sandstones of the Millstone Grit Formation. These include open water, eutrophic marsh, carr, oak (<i>Quercus</i> spp.) and birch (<i>Betula</i> spp.) woodland and heath.	SK 330227	1.9km north-east

Non-statutory Sites

- 5.1.3 Non-statutory sites are termed Local Wildlife Sites in Derbyshire. Local Wildlife Sites are defined areas identified and selected locally for their nature conservation value. Their selection takes into account the most important, distinctive and threatened species and habitats within Derbyshire. There are ten Local Wildlife Sites, four Potential Local Wildlife Sites and two other sites of nature conservation interest within (or partially within) the 2km search area as shown in Tables 3 to 5 below.
- 5.1.4 The closest site is Fox Covert which is a stream and woodland copse and is connected to the site via hedgerows and arable fields. The Ladyfields Plantation Local Wildlife Site is located some 625m north-east of the site which is also connected to the site via woodland, hedgerows and road verges.

Table 3: Local Wildlife Sites

Site Name	Main Habitat	Grid Reference	Approximate Distance and Direction from Site
Ladyfields Plantation	Secondary Broad-leaved woodland	SK332209	625m north-east
Sharps Bottom	Ancient Semi-natural oak woodland	SK334205	875m east

Site Name	Main Habitat	Grid Reference	Approximate Distance and Direction from Site
Woodville Disused Railway	Unimproved neutral grassland	SK319195	1km south-west
Several Wood	Ancient semi-natural woodland	SK336200	1km south-east
Daniel Hayes Field	Unimproved neutral grassland. Lowland dry acidic grassland.	SK338210	1km north-east

Table 4: Potential Local Wildlife Sites

Site Name	Main Habitat	Grid Reference	Approximate Distance and Direction from Site
Springhill Field	Unimproved grassland. Lowland meadow.	SK322214	870m north
Woodville Disused Railway	Unimproved grassland	SK314200	1km south-west
Repton Road Field	Unimproved grassland	SK316214	1km north-west

Table 5: Other Sites of Interest

Site Name	Main Habitat	Grid Reference	Approximate Distance and Direction from Site
Fox Covert	Unreferenced. Stream and woodland/copse.	SK325198	545m south

Protected/ Notable Floral Species

- 5.1.5 The search from the DWT indicates that there are no previous records for protected or notable floral species for the site. The DWT indicates that there are records for the Derbyshire Red Data book species Narrow Buckler-fern (*Dryopteris carthusiana*), Sheep's-bit (*Jasione montana*), Purple Willow (*Salix purpurea*) and Horned Pondweed (*Zannichellia palustris*) and the Nationally Scarce species Large-leaved Lime (*Tilia platyphyllos*) within 2km of the site. The closest records are for Narrow Buckler-fern located approximately 600m south-east and north-west of the site.
- 5.1.6 There are two records for veteran trees within 2km of the site. A chestnut species located approximately 615m west and a sweet chestnut (*Castanea sativa*) located approximately 1.5km east of the site.

Protected/Notable Faunal Species

- 5.1.7 There are no previous records for protected or notable species specifically relating to the site. There are, however, records within 2km of the site area.

- 5.1.8 There are no records for dormice (*Muscardinus avellanarius*), otter (*Lutra lutra*), white-clawed crayfish (*Austropotamobius pallipes*) or Schedule 1 protected birds within 2km of the site. A search of NBN Gateway confirmed that the closest records for dormice were from 24km south-west, for otters were from 11km north-east and for white-clawed crayfish were from 4.5km north-east. There are, however, records for great crested newts (*Triturus cristatus*), reptiles, [REDACTED] bats and water vole (*Arvicola amphibius*) as detailed below.

Amphibians

- 5.1.9 There are three recent great crested newt records within 1km of the site (see Table 6), one of which is for the pond located 390m north of the site. In addition, there are a further six records for great crested newts from 2003/4 located approximately 2.1km south-west of the site. A review of the relevant Ordnance Survey map has shown that there are three ponds within 500m of the site, located 390m north (which has records for great crested newts), 480m south-west and 500m north. No waterbodies, other than a ditch which was dry at the time of survey, are present within the site itself.

Table 6: Protected Faunal Species - Amphibians

Species Common Name	Species Latin Name	Record Date(s)	Approximate Distance and Direction from Site
Great Crested Newt	<i>Triturus cristatus</i>	2014	390m north
		2014	990m north-east
		2014	990m north-east

Reptiles

- 5.1.10 There are five records for reptiles, namely common lizard (*Zootoca vivipara*) and grass snake (*Natrix natrix*), within 2km of the site (see Table 7 below). The closest recent records are located approximately 1.6km and 1.9km west of the site for common lizard and grass snake, respectively.

Table 7: Protected Faunal Species - Reptiles

Species Common Name	Species Latin Name	Record Date(s)	Approximate Distance and Direction from Site
Common lizard	<i>Zootoca vivipara</i>	1962	1km east
Grass snake	<i>Natrix natrix</i>	1978	1.75km west
Grass snake	<i>Natrix natrix</i>	1985	1.8km west
Grass snake	<i>Natrix natrix</i>	1998	1.9km west
Common lizard	<i>Zootoca vivipara</i>	2006	1.6km west

- 5.1.11 The NBN Gateway indicates that there are seven records of grass snake (1976 - 2014) and three records of adder (*Vipera berus*) (1984 and 2000) from the 10km square and twelve records of common lizard (1962 to 2006) from the 2km and 10km square where the site is situated.

Bats

- 5.1.12 There are three records of bat roosts within 2km of the site for Pipistrelle spp. and a roost of unknown species (see Table 8).

Table 8: Protected Faunal Species – Bat Roosts

Species Common Name	Species Latin Name	Record Date(s)	Approximate Distance and Direction from Site
Unknown	<i>Unknown</i>	2014	1.4km south-west
Pipistrelle spp.	<i>Pipistrellus spp.</i>	2006	1.75km west
Pipistrelle spp.	<i>Pipistrellus spp.</i>	1997	1.9km west

- 5.1.13 Records for the following species are held on the NBN Gateway from within the 10km square SK32:

- Serotine bat (*Eptesicus serotinus*) from 2000 to 2008,
- *Myotis* spp. from 1988 to 2013,
- Daubenton's bat (*Myotis daubentonii*) from 1988 to 2013,
- Whiskered bat (*Myotis mystacinus*) from 1980 to 2007, whiskered/brandt's bat (*Myotis mystacinus/brandtii*) from 2005 and 2011,
- Natterer's bat (*Myotis nattereri*) from 2007 to 2013,
- *Nyctalus* spp. from 1999 to 2013, noctule (*Nyctalus noctula*) from 1999 to 2013,
- Pipistrelle species (*Pipistrellus* spp.) from 1979 to 2013, common pipistrelle (*Pipistrellus pipistrellus*) from 1979 and 2000, soprano pipistrelle (*Pipistrellus pygmaeus*) from 1997 to 2013;
- Brown long-eared bat (*Plecotus auritus*) from 1993 to 2013.

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]
		[REDACTED]	[REDACTED]

Water Vole

- 5.1.15 There are six records for water vole within 2km of the site. The most recent is a record from 2004 which is at a wildlife site at Hartshorne Dams, Ladyfields Plantation.

Table 10: Protected Faunal Species – Water Vole

Species Common Name	Species Latin Name	Record Date(s)	Approximate Distance from Site
Water Vole	<i>Arvicola amphibius</i>	1979	620m north-west
		1997	700m east
		1997	700m east
		2004	720m north-east
		1997	750m north-east
		1992	1.4km north

Other Mammals

- 5.1.16 There are five records held by DWT for the UK Biodiversity Action Plan (BAP) priority mammal species brown hare (*Lepus capensis*) within 2km of the site. The closest record is 430m east of the site. There are records for brown hare from 1965 to 2015 and European hedgehog (*Erinaceus europaeus*) from 1965 to 2006 with the 10km square held on NBN Gateway.

Birds

- 5.1.17 There are records for Schedule 1 protected bird species in the 10km square SK32 which may be associated with similar habitats to those present on the site under consideration including brambling (*Fringilla montifringilla*) (1981 & 2000), fieldfare (*Turdus pilaris*) (1984 to 2000), hobby (*Falco subbuteo*) (1991 to 2000), merlin (*Falco columbarius*) (1984 to 2000), barn owl (*Tyto alba*) (1965 to 2011) and redstart (*Phoenicurus phoenicurus*) (1981 to 2000).

- 5.1.18 There are records for 10 UK BAP priority bird species in the 2km search area around the site. Of these, nesting and/or foraging habitat on site could be available for song thrush (*Turdus philomelos*), house sparrow (*Passer domesticus*), tree sparrow (*Passer montanus*), bullfinch (*Pyrrhula pyrrhula*), and yellowhammer (*Emberiza citrinella*). Records of lapwing (*Vanellus vanellus*), curlew (*Numenius arquata*), grey partridge (*Perdix perdix*), lesser spotted woodpecker (*Dendrocopos minor*) and reed bunting (*Emberiza schoeniclus*) are likely to be for locations off site. The nearest bird record of relevance provided by all sources consulted is for a yellowhammer in 2003. This was located approximately 240m south of the site.

Other Invertebrates

- 5.1.19 There are six records for moths listed on the UK BAP within 2km of the site held by DWT at Sharps Bottom woodland, a Local Wildlife Site, located 875m east of the site. The following species have been recorded and are associated with sub-urban, hedgerow or grassland habitats:
- brown-spot pinion (*Argochola litura*);
 - figure of eight (*Diloba caeruleocephala*);
 - dot moth (*Melanchra persicariae*);
 - white ermine (*Spilosoma lubricipeda*);
 - buff ermine (*Spilosoma luteum*) and;
 - feathered gothic (*Thorela decimalis*).
- 5.1.21 There are four BAP priority butterfly records within 2km of the site held by DWT. The records held by DWT are two records for wall (*Lasiommata megera*) and a record for dingy skipper (*Erynnis tages*) and small heath (*Coenonympha pamphilus*). The closest is for wall butterfly located approximately 1.5km east of the site.

5.2 Extended Phase 1 Habitat Survey

Habitats

5.2.1 The following Phase 1 habitat types were recorded on the site and are shown in the Extended Phase 1 Habitat Plan provided as Figure 3 below:

- Species-poor semi-improved grassland;
- Bare Ground/Ephemeral;
- Intact native species-rich hedgerow;
- Intact native species-poor hedgerows;
- Dense scrub.

5.2.2 The site was composed predominantly of a large field of species-poor semi-improved grassland which was grazed by two horses at the time of survey. The boundaries of the site were predominantly fences or species-poor hedgerows (less than five woody native species per 30m section) with the exception of the hedgerow which formed the western boundary of the site which was species-rich (greater than five woody species per 30m section).

Habitat Descriptions

Poor Semi-improved Grassland

5.2.3 The species-poor semi-improved grassland field had a sward of variable height, with shorter areas where it had been grazed to areas of longer grass, particularly at the field margins. The sward was grass-dominated, with species recorded including Yorkshire-fog (*Holcus lanatus*) which was dominant, meadow foxtail (*Alopecurus pratensis*), timothy (*Phleum pratense*), common bent (*Agrostis capillaris*), soft brome (*Bromus hordeaceus*), rough meadow-grass (*Poa trivialis*), cock's-foot (*Dactylis glomerata*), false oat-grass (*Arrhenatherum elatius*) and perennial rye grass (*Lolium perenne*). Herbaceous species were limited in abundance and diversity and included dandelion (*Taraxacum* agg.), creeping buttercup (*Ranunculus repens*), meadow buttercup (*Ranunculus acris*), broad-leaved dock (*Rumex obtusifolius*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), greater plantain (*Plantago major*), ribwort plantain (*Plantago lanceolata*), common mouse-ear (*Cerastium fontanum*) and spear thistle (*Cirsium vulgare*).

Photograph 1 –Species-poor Semi-improved Grassland



- 5.2.4 It should be noted that a brief inspection of the paddock to the south of the site to which the horses had access but which appeared to be grazed less, indicated that this area had more diversity of herbaceous species and included meadow vetchling (*Lathyrus pratensis*), silverweed (*Potentilla anserina*), common knapweed (*Centaurea nigra*) and great burnet (*Sanguisorba officinalis*) which is indicative of damp unimproved grassland.

Bare ground/Ephemeral

- 5.2.5 At the gate entrances in the north-eastern and south-eastern boundaries of the site, these areas were dominated by bare ground with sparse ground flora including greater plantain, knotgrass (*Polygonum aviculare*) and pineapple weed (*Matricaria discoidea*).

Photograph 2 –Disturbed ground at gate entrance



Intact Native Species Rich Hedgerow – Hedgerow 1

- 5.2.6 The hedgerow along the western boundary of the site was approximately 40m in length and 3m to 6m thick. The hedgerow was intact and comprised a diverse selection of woody species including hawthorn (*Crataegus monogyna*), elder (*Sambucus nigra*), holly (*Ilex aquifolium*), dog-rose (*Rosa canina*) and hazel (*Corylus avellana*). Bramble (*Rubus fruticosus* agg.), apple (*Malus* spp.) and plum (*Prunus* spp.) were also present. The herbaceous ground flora included ivy (*Hedera helix*), nettle (*Urtica dioica*), common hogweed (*Heracleum sphondylium*), hedge woundwort (*Stachys sylvatica*), white dead nettle (*Lamium album*) and cleavers (*Galium aparine*) and the only climber noted was black bryony (*Tamus communis*).

Photograph 3 –Native Species Rich Hedgerow



Intact Native Species Poor Hedgerows – Hedgerows 2 to 5

- 5.2.7 The hedgerow (Hedgerow 2) on the southern boundary of the site was approximately 125m in length, 3m thick and dominated by hawthorn (with rare mature specimens), included elder, dog-rose and bramble, and had limited herbaceous ground flora i.e. cleavers, creeping thistle (*Cirsium arvense*), nettle, hogweed, cow parsley (*Anthriscus sylvestris*), garlic mustard (*Alliaria petiolata*) and hedge woundwort.

Photograph 4 –Native Species Poor Hedgerow: Southern Boundary



- 5.2.8 The hedgerow (Hedgerow 3) on the eastern boundary was also approximately 3m thick and was 65m long and dominated by holly. Elder, hawthorn and bramble were also present, as was limited herbaceous ground flora which included nettle and willowherb (*Epilobium* spp.). A newly planted beech hedgerow was present beyond the fence in the north-eastern portion of the site (Hedgerow 4).

Photograph 5 –Native Species Poor Hedgerow: Eastern Boundary



- 5.2.9 The hedgerow (Hedgerow 5) on the northern boundary of the site was immature and was dominated by hawthorn with bramble and cleavers.

Photograph 6 –Native Species Poor Hedgerow: Northern Boundary



Dense Scrub

- 5.2.10 Part of the south-western boundary of the site was formed by dense bramble scrub where male-fern (*Dryopteris filix-mas*), creeping thistle, nettle, cleavers and broad-leaved dock were also recorded.

Photograph 7 – Scrub on South-western Site Boundary

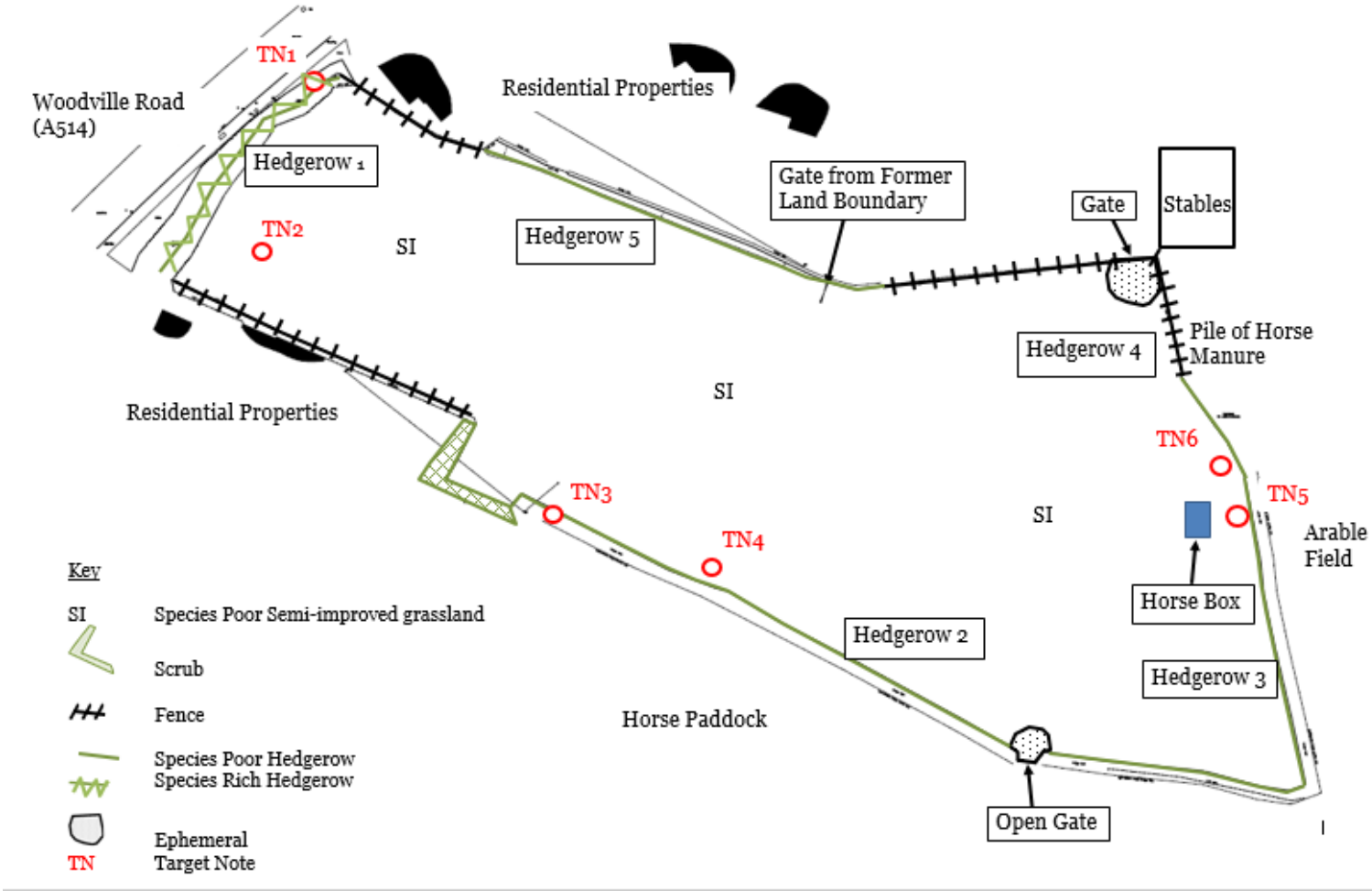


5.3 Target Notes

5.3.1 The following ecological features recorded on site were recorded as Target Notes (TN), as indicated on Figure 3:

- TN1: House sparrows heard in hedgerow
- TN2: Water-logged ground
- TN3: Mammal path through hedgerow
- TN4: Ringlet butterfly seen
- TN5: Discarded materials
- TN6: Three small tortoiseshell butterflies seen

Figure 3: Extended Phase 1 Habitat Plan



5.4 Protected/Notable Species

Flora

- 5.4.1 Of the notable plant species returned by DWT, suitable habitats within the site only exist for large-leaved lime, however this species was not encountered within any of the site's hedgerows. Other species listed by DWT are associated with aquatic habitats or unimproved grasslands, and as such would not be present on site.

Invertebrates

- 5.4.2 There are habitats on site which have the potential to support notable species of invertebrates recorded in the site area, such as grassland and hedgerows. Common species of butterfly, namely ringlet and small tortoiseshell were noted during the field survey. However, the quality of the grassland is considered to be degraded through management including the use of the site as a horse paddock and the species diversity of herbaceous species is poor. It is therefore considered unlikely that the site supports a diverse assemblage of invertebrate species.
- 5.4.3 The field survey did not identify any aquatic habitats on site and therefore there is no potential for white-clawed crayfish to be present.

Amphibians

- 5.4.4 The site does not support any suitable aquatic habitats for breeding amphibians. A ditch is present along the southern boundary of the paddock to the south, located approximately 80m from the site. This ditch was noted to be dry at the time of survey and is not shown on the Ordnance Survey or connected to any other significant water features.
- 5.4.5 The hedgerows and grassland offer potentially suitable terrestrial habitat for foraging, dispersing and sheltering amphibians including great crested newts.

Reptiles

- 5.4.6 The hedgerows and differing sward length of the grassland offer potentially suitable terrestrial habitat for foraging, basking and dispersing reptiles and also shelter and basking opportunities. The discarded materials (which included a piece of leather material) present in the grassland in the eastern portion of the site adjacent to the hedgerow were lifted and no reptiles (or amphibians) were found. However, given that suitable habitat is present and that reptiles are known to occur within 2km of the site, their potential presence within the site should be considered.

Otters and Water Voles

- 5.4.7 There are no aquatic habitats on site and therefore the site is considered unsuitable for water vole. The closest record for water vole is approximately 720m from site. The nearest water feature considered likely to be used by otter is located over 2km from site and the closest record for otter is approximately 11km from site. It is therefore considered that otter are unlikely to use the site under consideration.

Dormice

- 5.4.8 The site's hedgerows, along with the dense bramble scrub, are potentially suitable for dormice. However, no records were returned by DWT within 2km of the site and Hartshorne lies within an area in which dormice have been sparsely distributed in recent years. Given that the nearest recent record is 24km from the site and that the site is not well-connected to this or any of the woodlands within the region that are known to support populations of dormice, it is considered highly unlikely that they would occur within the site.

Bats

- 5.4.9 There are no buildings or mature trees on site and therefore the likelihood of bats using the site for roosting is considered to be negligible. It was not possible to internally access the stables located adjacent to the north-east of the site during the Phase 1 survey. However from an initial external assessment, the building appears to have a negligible to low potential for roosting bats.
- 5.4.10 The site supports suitable commuting and foraging habitat for bats, particularly along the boundary hedgerows. Given the suitable habitat within the site and the potential for roosting within nearby houses in Hartshorne, it is considered likely that small to moderate numbers of bats use the site.

Breeding Birds

- 5.4.13 A small number of bird species were recorded incidentally during the field survey including house sparrow. Swallows (*Hirundo rustica*) were seen foraging over the site.
- 5.4.14 The site's hedgerows and bramble scrub provide suitable nesting and foraging opportunities for a range of bird species typical of lowland mixed farmland and urban fringe, including the Schedule 1 and UK BAP Priority species listed in paragraph 5.1.17 and 5.1.18 above. The grassland is considered unlikely to be suitable for ground-nesting birds owing to the effect of horse grazing on sward height.

6 Discussion and Recommendations

6.1 Designated Sites

- 6.1.1 The closest statutory designated site is a SSSI, Carver's Rock. This SSSI is designated for a number of habitats, including open water, eutrophic marsh, carr, oak and birch woodland and heath and is located approximately 1.9km from the site. Given its geographical isolation from the site and the small-scale nature of the development proposals it is considered unlikely that this SSSI will be impacted by the development.
- 6.1.2 The closest non-statutory site is Fox Covert which is located approximately 545m from the site and comprises a stream and woodland/copse. The closest Local Wildlife Site (LWS) is Ladyfields Plantain located 625m from site which is designated for broad-leaved secondary woodland. Given the distance from the site, neither these nor any of the other local wildlife sites are considered likely to be adversely affected by the proposed development.

6.2 Habitats

- 6.2.1 The majority of the site is comprised of species-poor semi-improved grassland that is of low botanical value. Of greater value is a species-rich hedgerow present along the western boundary of the site, which was found to support an average of 5 number of woody species per 30m. Although the hedgerow was likely to be at least 30 years old, contained five woody species, was parallel to another hedge and was intact, it is not considered to be Important from a Wildlife and Landscape perspective under the Hedgerow Regulations (1997) as it does not have sufficient features such as connections to other hedgerows, woodland or ponds, nor the presence of a wall, ditch or any mature trees to meet the criteria for Important Hedgerows.
- 6.2.2 Hedgerows are both a UK and Lowland Derbyshire BAP Priority Habitat and provide potential habitat and locally valuable wildlife corridors for a number of protected/notable species, as discussed below.
- 6.2.3 It is understood that the development will retain a portion of the species-poor semi-improved grassland habitat as a paddock in the eastern portion of the site. It is therefore recommended that this area be protected during the construction works. Enhancement of this currently botanically-poor grassland should be considered as an opportunity to achieve a biodiversity gain for the site and to compensate for the overall loss of grassland resulting from the development.
- 6.2.4 It is anticipated that the majority of the hedgerows along the boundaries of the site will be retained as part of the development. These should be protected through the installation of protective fencing prior to the commencement of on-site construction.
- 6.2.5 It is understood that the species-rich hedgerow which forms the western boundary of the site will require at least partial removal to form a new access from Woodville Road. Removal of this hedgerow should be kept to a minimum, with as much of the original hedge being retained and incorporated into the development as possible, and any original hedge that remains should be protected during the construction works as for other retained hedgerows.

- 6.2.6 The development proposals include the planting of a new hedgerow along the boundary of the proposed development and the retained paddock to the east. It is recommended that this hedgerow is planted with a diverse mix of native species of local provenance in order to compensate for the partial loss of the species-rich hedgerow to the west. Inclusion of fruit and nut-bearing species would provide new foraging opportunities for species such as birds. It is further recommended that new hedgerows are planted around the site's boundaries in place of the existing fence lines to improve connectivity between retained habitats within the site and the wider countryside and to provide new habitats for nesting birds and foraging and commuting bats.

6.3 Protected/Notable Species

Amphibians

- 6.3.1 The desk study has revealed recent records of great crested newts from within a pond lying approximately 390m to the north of the site. The site does not support any aquatic features suitable for breeding amphibians, and the ditch that is present 80m south of the site is considered unlikely to hold water during the amphibian breeding season. A review of Ordnance Survey maps for the area has identified that only a further two ponds occur within 500m of the site, at 480m south-west and 500m north.
- 6.3.2 Although the site lies within the usual terrestrial range of great crested newts, all three ponds are segregated from the site and the nearby ditch by a number of roads, including Woodville Road (A514), which due to the volume of traffic and width of this road is considered to serve as a significant barrier to dispersal.
- 6.3.3 Given the lack of aquatic habitats within the site and the geographical separation of the nearest known breeding pond, great crested newts are considered highly unlikely to occur within the site and as such no further surveys for amphibians are recommended. Common amphibians such as common frog and the LBAP species, common toad, may be present on site and therefore recommendations are made in relation to these species in Section 6.4 below.

Reptiles

- 6.3.4 The desk study has revealed records for common lizard and grass snake within 2km of the site. Suitable habitat for reptiles is present primarily around the field margins, where the grass is more tussocky, and it is considered that the site could support a population of commonly occurring reptiles.
- 6.3.5 As such, it is recommended that presence/absence surveys for reptiles are undertaken to determine if these protected species could be impacted by the development proposals. Surveys for reptiles are undertaken between April-September (with the optimal months for detecting presence being April, May and September) and would entail the deployment of artificial refugia comprising material such as roofing felt or corrugated tin and the subsequent monitoring of these refugia for basking reptiles. A minimum of seven survey visits should be undertaken to determine presence, and (should they be present) gauge an understanding of use of the site by reptiles and a population estimate.

- 6.3.6 Should presence of reptiles be confirmed, mitigation measures to protect them from harm during the course of the development works would need to be implemented. Such measures may include sensitive timing of works, habitat manipulation to encourage reptiles away from the areas of work and into retained habitats, works being overseen by a suitably experienced ecologist and enhancement of retained habitats to accommodate reptiles within an area of the site outside the development footprint.

Breeding Birds

- 6.3.7 Hedgerows and scrub within the site provide suitable habitat for a suite of breeding birds typical of lowland mixed farmland and urban fringe, possibly including one or more of the Schedule 1 and UK BAP Priority species listed in the Desk Study. Of these, only house sparrows were seen on site during the field survey and should be assumed to be resident in the area, although they are unlikely to have nest sites within the site itself. The presence of other species of conservation concern was not confirmed.
- 6.3.8 The small size of the site, and the lack of suitable nesting habitat within the grassland area, suggests that, if present, any birds of conservation concern listed in the Desk Study (or indeed any other species that have not so far been recorded and notified to DWT) are unlikely to be solely dependent on habitats within it. It is therefore not considered necessary to undertake a breeding bird survey to inform the assessment of impacts, unless fringing hedgerows which do provide suitable breeding sites will be removed or substantially altered.
- 6.3.9 All nesting birds receive full legal protection under the Wildlife and Countryside Act, 1981 (as amended). This legislation protects birds as well as their eggs, unfledged young and nests from death, injury, damage and disturbance.
- 6.3.10 Any proposed vegetation clearance works should be programmed to be completed outside of the nesting bird season. The bird nesting season broadly runs from March to August inclusive, although some species breed earlier and others could still be nesting into September. Given the lack of certainty regarding the presence or absence of dormice (see below), it is not considered appropriate to carry out works other than during the winter months.
- 6.3.11 The previously detailed mitigation and enhancement measures for hedgerows would directly benefit breeding birds in terms of provision of new foraging and nesting resources. Additional enhancements could also be considered, such as the provision of new nesting opportunities within the construction of the new houses.

Bats

- 6.3.12 The desk study revealed a number of records for bats within 2km of the site, including records of roosts for Pipistrelle species. Other species recorded include noctule, serotine, daubenton's, whiskered, brandt's and natterer's, and also common and soprano pipistrelle within 10km of the site.

- 6.3.13 There are no buildings or mature trees on site, nor any other features that are considered suitable for roosting bats on site. It was not possible to internally access the stables located adjacent to the north-east of the site during the Phase 1 survey. However from an initial external assessment, the building appears to have a negligible to low potential for roosting bats. It is therefore recommended that access be arranged with the owner to carry out a detailed scoping assessment of the stables to determine whether this building has the potential to support a bat roost. The site does provide suitable habitat for foraging and commuting bats however, particularly the boundary hedgerows. Overall, the habitats within the site are considered to be of medium quality for bats.
- 6.3.14 All UK species of bat receive full legal protection under both the Conservation of Habitats and Species Regulations, 2010 (as amended) and the Wildlife and Countryside Act, 1981 (as amended). This legislation protects bats and their young from capture, death and injury, and their breeding and resting places (i.e. roosts and hibernaculum) from removal, destruction and disturbance. Disturbance can include having a significant effect on the local distribution or abundance of the species.
- 6.3.15 In accordance with the current Bat Conservation Trust (BCT) Good Practice Survey Guidelines (2012), it is recommended that further surveys for bats, in the form of activity surveys, are undertaken at the site in order to determine:
- The assemblage of bat species using the site;
 - The features that are used by bats at the site and;
 - The nature of activity for different bat species, for example foraging and commuting.
- 6.3.16 For sites of moderate quality of less than a hectare, it is recommended that a walked transect survey is undertaken on three occasions over the bat activity season i.e. March to September (optimum time being June to August). In combination with the walked transect, it is also recommended that automated surveys are conducted which would entail the deployment of an automated bat detector for three consecutive nights on three occasions, also during the bat activity season.
- 6.3.17 Dependent upon the results of the bat activity surveys, mitigation measures to avoid potential impacts of the development proposals on foraging and commuting bats may be necessary. As a minimum, measures to reduce light spillage onto retained on and off-site habitats should be included within the lighting scheme for the development. This could be achieved through careful placement of lighting, use of directional lighting of a low lux level and timing of lighting to avoid key periods of bat activity. [REDACTED]
- 6.3.18 Consideration should be given to providing habitat enhancement for bats within the proposals and could be achieved through the provision of new roosting opportunities within the residential buildings.

[REDACTED]

[REDACTED]
[REDACTED]
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[REDACTED]

Dormice

- 6.3.21 Records of dormice within Derbyshire are relatively sparse and the nearest recent records (i.e. within the last 20 years) for dormice are located in excess of 24km from the site. Given that the species is not known to occur in the vicinity of the site, it is considered highly unlikely that dormice are present and no further surveys are considered necessary.
- 6.3.22 However, given that at least partial removal of the species-rich hedgerow present along the western boundary of the site is proposed, it is recommended that this is undertaken in a precautionary manner to be certain to avoid potential impacts upon this species if it was to be present. It is recommended that removal of above-ground woody vegetation (such as bramble scrub and trees and scrub within hedgerows) is undertaken during the winter (i.e. November to February, inclusive). The woody vegetation should be cut to approximately 50cm high, leaving the stumps intact until the spring. These time constraints would not only avoid impacts on dormice (should they be present), but would also avoid impacts upon nesting birds and hibernating reptiles (should further surveys confirm their presence).

Hedgehogs and Hare

- 6.3.23 Hedgehogs are likely to be found on site, probably exploiting invertebrate food in hedgerows and across the grassland areas. It is also possible that hibernation and other resting sites could be located within the hedgerows. It is unlikely that any hedgehog population in the area would be entirely dependent on the site so no specific surveys for this species are thought necessary. However, it should be assumed that any vegetation clearance in the winter could be high risk for individuals and the precautions recommended with respect to dormice (see above) should be followed to avoid harming hibernating animals.
- 6.3.24 Mitigation and/or enhancement for hedgehogs within the final site design should include suitable runways under boundary fences, hedgerow and tree planting to encourage invertebrate and fruit food sources and wood piles for hibernation.
- 6.3.25 Brown hares are unlikely to be present on site, as this species requires long grass swards for the establishment of "forms" where females give birth to their young.

6.4 Additional precautionary measures

- 6.4.1 If any common amphibians (i.e. frogs and toads), hedgehogs or small mammals (i.e. mice, shrews or voles) are encountered during the works, these should be allowed to leave the area or carefully transferred by hand from the work area to a similar habitat within the immediate vicinity.
- 6.4.2 Any trenches left open overnight should be graded with a gently sloping end to allow small animals to escape if they should accidentally enter. In addition, any pipes over 150mm diameter should be capped off overnight to prevent small animals becoming trapped inside them.

6.5 Regulatory Liaison

- 6.5.1 It is recommended that this report is submitted to Derbyshire County Council for comment and the scope of further recommended surveys agreed prior to any works being undertaken at the site.

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The findings and opinions conveyed via this report are based on information obtained from a variety of sources, as detailed, which Opus believes are reliable. Nevertheless, Opus cannot and does not guarantee the authenticity or reliability of the information it has relied upon from these sources.

The plans enclosed in this report should not be used for scaling purposes.

APPENDIX A

Site Photographs



Site from North-west Facing South-east



Site Facing North-east from South-west



Site from South Facing West



Site from South Facing North-east



Site from South Facing South-east



Site from South-east Facing South-west



Site from South-east Facing North-west



Site from North-east Facing South-west



Site from North-east Facing South-west



Ponded Water in South-west of the Site



Mammal Path through Hedge of Southern Boundary



Mature Hawthorn on Southern Boundary



Discarded Materials on Eastern Boundary



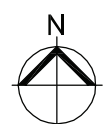
Manure Pile off-site to North-east

APPENDIX B

Proposed Development Layouts



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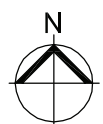
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Drawing name: Initial Illustrative Layout (OS Base)

Revision: -

Drawing number: C9817.15.700
Project: land adjacent to Woodville Road Hartshorne
Date: 18.05.15





Not to Scale

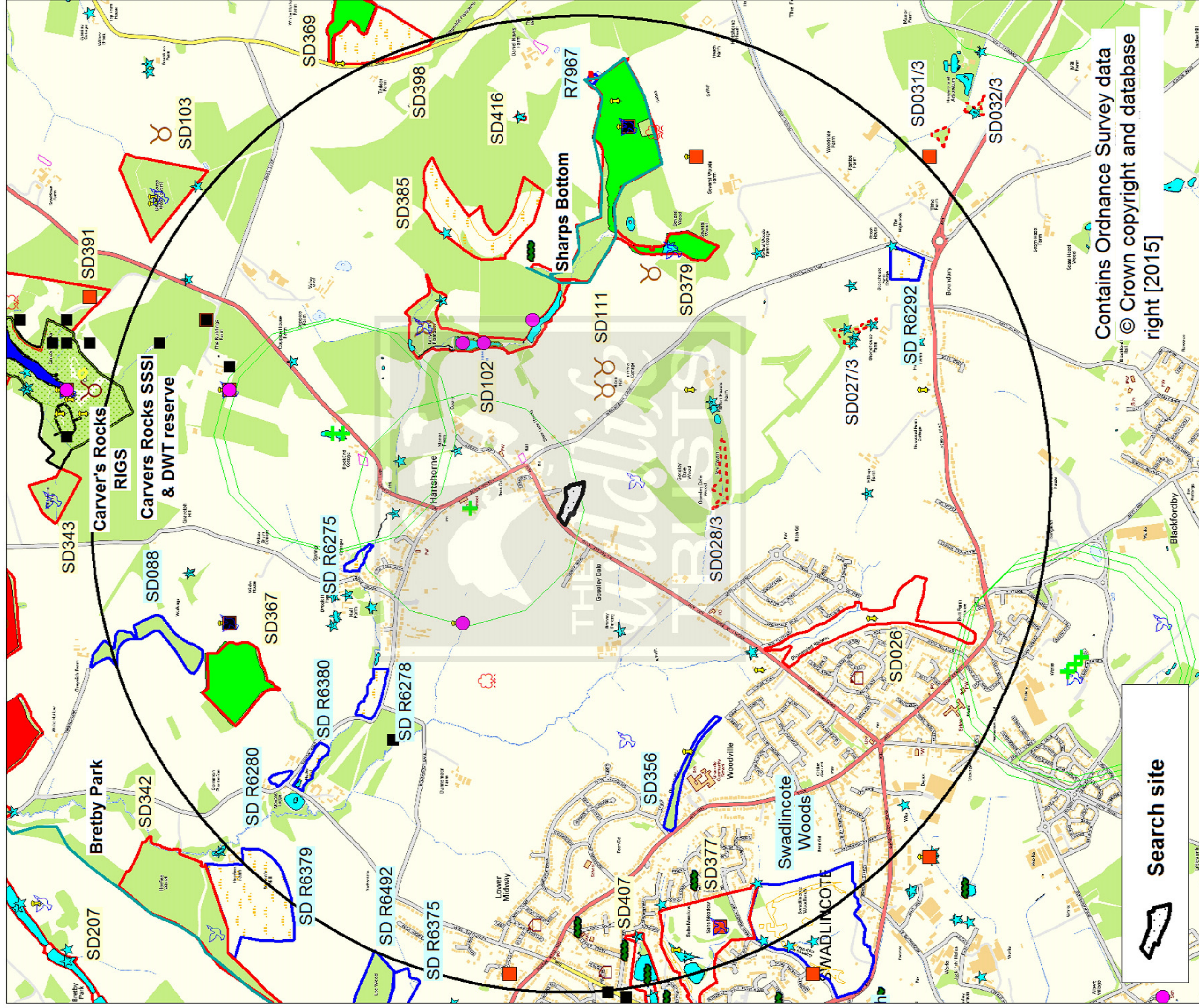
Drawing name: Initial Illustrative Layout (Aerial View)

Revision: -

Drawing number: C9817.15.701
Project: Land adjacent to Woodville Road Hartshorne
Date: 18.05.15



Appendix C
Derbyshire Wildlife Trust
Biological Records Search Response



**Produced for
Opus International
by Derbyshire Wildlife Trust
26th June 2015**

Derbyshire
Wildlife Trust

Great crested newt records

<u>OS Grid Ref</u>	<u>Location</u>	<u>Date</u>
SK32812157	Pond 6 , immediately N of Pond 5	2014
SK32812153	large duck pond within a small holding	2014
SK32492098	Pond 2, Hartshorne Primary School	2014

Great crested newt records (500m buffer zone within search area)

<u>OS Grid Ref</u>	<u>Location</u>	<u>Date</u>
SK318183	Woodville Woodlands	2003
SK318183	Woodville Woodlands	2003
SK317184	Woodville Woodlands	2003
SK318183	Woodville Woodlands	2004
SK318183	Woodville Woodlands	2004
SK317184	Woodville Woodlands	2004

Water vole records

<u>OS Grid Ref</u>	<u>Location</u>	<u>Date</u>	<u>Watercourse</u>
SK3322	Carvers Rocks SSSI Reserve	1979	
SK3221	Hartshorne	1992	Repton Brook
SK332210		1997	Hartshorne Dams (Limehouse)
SK332210		1997	Hartshorne Dams
SK333207		1997	Hartshorne Dam (Upper)
SK33202091	Wildlife Site	2004	Hartshorne Dams

Bat roost records

<u>Species</u>	<u>OS Grid Ref</u>	<u>Location</u>	<u>Date</u>
Pipistrelle	SK307207	17 Malmesbury Avenue, Midway	2006
Pipistrelle	SK305204	17 Prestwood Park Drive, Midway	1997
Unidentified	SK31761932	Swadlincote DE11 7QW	2014

Reptile records

<u>Species</u>		<u>Location</u>	<u>OS Grid Ref</u>	<u>Date</u>
Zootoca vivipara	Common Lizard	Church Broughton	SK336207	1962
Natrix natrix	Grass Snake	Garden, A50, Swadlincote area.	SK307205	1978
Natrix natrix	Grass Snake	Allotments, Swadlincote area	SK306203	1985
Natrix natrix	Grass Snake	Midway Fishponds (garden by).	SK305202	1998
Zootoca vivipara	Common Lizard	Swadlincote	SK309200	2006



UK BAP Bird species (DWT records only)

<u>Species</u>		<u>Location</u>	<u>OS Grid Ref</u>	<u>Date</u>
Pyrrhula pyrrhula	Bullfinch	Midway Clay Site	SK307199	2000
Passer domesticus	House Sparrow	SD Devel 07 Broomy Farm	SK315203	2000
Emberiza citrinella	Yellowhammer	SD Devel 07 Broomy Farm	SK315203	2000
Vanellus vanellus	Lapwing	Ladyfields Plantation	SK33272117	2003
Emberiza schoeniclus	Reed Bunting	Ladyfields Plantation	SK33272117	2003
Numenius arquata	Curlew	Ladyfields Plantation	SK33272117	2003
Perdix perdix	Grey Partridge	Ladyfields Plantation	SK33272117	2003
Passer montanus	Tree Sparrow	Ladyfields Plantation	SK33272117	2003
Vanellus vanellus	Lapwing	Ladyfields Plantation	SK33272117	2003
Numenius arquata	Curlew	Ladyfields Plantation	SK33272117	2003
Passer montanus	Tree Sparrow	Ladyfields Plantation	SK33272117	2003
Dendrocopos minor	Lesser Spotted Woodpecker	Ladyfields Plantation	SK33272117	2003
Emberiza schoeniclus	Reed Bunting	Ladyfields Plantation	SK33272117	2003
Perdix perdix	Grey Partridge	Ladyfields Plantation	SK33272117	2003
Turdus philomelos	Song Thrush		SK3222	2003
Emberiza citrinella	Yellowhammer	Hartshorne Meadow	SK32612026	2003

There are 43 additional BAP bird records within the search area, details for which are available from DOS, contact Dave Richardson

UK BAP Mammal species

<u>Species</u>		<u>Location</u>	<u>OS Grid Ref</u>	<u>Date</u>
Lepus capensis	Brown Hare		SK331204	2000
Lepus capensis	Brown Hare		SK330204	2000
Lepus capensis	Brown Hare		SK335202	2000
Lepus capensis	Brown Hare	Ladyfields Plantation	SK33272117	2003
Lepus capensis	Brown Hare	Ladyfields Plantation	SK33272117	2003

UK BAP moth species (DWT records)

<u>Species</u>		<u>Location</u>	<u>OS Grid Ref</u>	<u>Date</u>
Agrochola litura	Brown-spot Pinion	Sharps Bottom (Woodland), Smisby	SK34132029	1972
Diloba caeruleocephala	Figure of Eight	Sharps Bottom (Woodland), Smisby	SK34132029	1972
Melanchra persicariae	Dot Moth	Sharps Bottom (Woodland), Smisby	SK34132029	1972
Spilosoma lubricipeda	White Ermine	Sharps Bottom (Woodland), Smisby	SK34132029	1972
Spilosoma luteum	Buff Ermine	Sharps Bottom (Woodland), Smisby	SK34132029	1972
Tholera decimalis	Feathered Gothic	Sharps Bottom (Woodland), Smisby	SK34132029	1972

There are 5 additional BAP moth records within the search area, details for which are available from DANES, contact Dave Budworth

UK BAP butterfly species (DWT records)

<u>Species</u>		<u>Location</u>	<u>OS Grid Ref</u>	<u>Date</u>
Lasiommata megera	Wall	Midway Clay Site	SK307199	1995
Lasiommata megera	Wall	Sharps Bottom (Woodland), Smisby	SK34132029	1972
Erynnis tages	Dingy skipper	Quarry in S Derbys (Midway Sandpit)	SK 305208	2007
Coenonympha pamphilus	Small Heath	Midway Clay Site	SK307199	1995

There are 10 additional BAP butterfly records within the search area, details for 6 are available from Butterfly Conservation Trust (contact Ken Orpe) and details for 4 are available from DANES (contact Dave Budworth)

Nationally Scarce (DRDB) plant species

<u>Scientific</u>	<u>Common</u>	<u>Location</u>	<u>OS Grid Ref</u>	<u>Date</u>
Tilia platyphyllos	Large-leaved Lime	Sharps Bottom (Woodland), Smisby	SK3420	2002
Tilia platyphyllos	Large-leaved Lime	Sharps Bottom (Woodland), Smisby	SK3420	2003
Tilia platyphyllos	Large-leaved Lime	Sharps Bottom (Woodland), Smisby	SK3420	2003
Tilia platyphyllos	Large-leaved Lime	SK3420 - Sharps Bottom	SK3420	2010



Locally Scarce or Declining (DRDB) plant species

<u>Scientific</u>	<u>Common</u>	<u>Location</u>	<u>OS Grid Ref</u>	<u>Date</u>
Dryopteris carthusiana	Narrow Buckler-fern		SK3222	1972
Dryopteris carthusiana	Narrow Buckler-fern	Carver's Rocks	SK3322	1972
Dryopteris carthusiana	Narrow Buckler-fern		SK3322	1973
Dryopteris carthusiana	Narrow Buckler-fern	Woodville Disused Railway(SD026)	SK32021922	1974
Dryopteris carthusiana	Narrow Buckler-fern	Woodville	SK318197	1974
Dryopteris carthusiana	Narrow Buckler-fern	Woodville Disused Railway(SD026)	SK32021922	1974
Dryopteris carthusiana	Narrow Buckler-fern	Woodville Disused Railway(SD356)	SK31452001	1975
Dryopteris carthusiana	Narrow Buckler-fern		SK3222	1975
Dryopteris carthusiana	Narrow Buckler-fern	Sharps Bottom (Woodland), Smisby	SK3320	1977
Dryopteris carthusiana	Narrow Buckler-fern	Sharps Bottom (Woodland), Smisby	SK34132029	1977
Dryopteris carthusiana	Narrow Buckler-fern		SK3322	1981
Dryopteris carthusiana	Narrow Buckler-fern		SK3222	1996
Dryopteris carthusiana	Narrow Buckler-fern	Carvers Rocks	SK3322	2002
Dryopteris carthusiana	Narrow Buckler-fern	Sharps Bottom (Woodland), Smisby	SK34132029	2002
Dryopteris carthusiana	Narrow Buckler-fern	Carvers Rocks SSSI Reserve	SK3222	2005
Dryopteris carthusiana	Narrow Buckler-fern	Carver's Rocks DWT Reserve	SK3322	2009
Jasione montana	Sheep's-bit	Old Hall Farm, Hartshorne	SK3221	1996
Salix purpurea	Purple Willow	Boundary, monad N.of.	SK3319	1997
Zannichellia palustris	Horned Pondweed	SK3020 - Midway Clay Site (Local Wildlife Site SD377)	SK30602006	2005

Veteran Trees (DWT records only)

<u>OS Grid Ref</u>	<u>Location</u>	<u>Species</u>	<u>Date</u>
SK317208	Doles Lane	Chestnut	2007
SK341201	hartshorne	sweet chestnut	2007

UK BAP habitats

historic wood pasture and parkland - Sharps Bottom

lowland swamp and tall herb fen

semi natural grassland - **see below**

traditional orchards

Ponds (not necessarily UK BAP habitat)**SSSI**

Carver's Rocks

DWT Nature Reserve

Carver's Rocks SSSI

Local Wildlife Sites

<u>Ref No</u>	<u>Name</u>	<u>Area (ha)</u>	<u>Ecological feature</u>
SD026	WOODVILLE DISUSED RAILWAY	7.4707	Unimproved neutral grassland
SD102	Ladyfields Plantation	6.6373	Secondary broad-leaved woodland
SD111	SHARPS BOTTOM	15.7038	Ancient semi-natural oak woodland
SD367	CAULKLEY WOOD	6.7559	Secondary broad-leaved woodland
SD377	MIDWAY CLAY SITE	11.2132	Standing open water
SD379	Several Wood	2.3601	Ancient semi-natural woodland - mixed deciduous
SD385	Daniel Hayes Field	8.8884	Unimproved neutral grassland
SD398	Tadsor Farm Meadows	6.1099	Unimproved neutral grassland
SD407	Midway Fishponds	2.2676	Habitat mosaic
SD416	Duck Pond - Daniel Hayes Farm	0.0563	Standing open water

Potential Local Wildlife Sites (Potential Local Wildlife Sites are sites that have been identified as having nature conservation interest, but where that interest has not been fully assessed against the Wildlife Site Selection Guidelines.)

<u>Ref No</u>	<u>Name</u>	<u>Area (ha)</u>	<u>Ecological feature</u>
SD356	Woodville Disused Railway	1.3818	Unimproved grassland
SD R6275	Springhill Field	0.5324	Unimproved grassland
SD R6278	Repton Road Field	1.4199	Unimproved grassland
SD R6280	Mill House Field	0.3377	Unimproved grassland
SD R6292	Water Tower field	1.6067	Semi-improved grassland
SD R6379	Moxons Hill	10.941	Unimproved grassland
SD R6380	Nether Hall Grassland	1.0403	Semi-improved grassland
SD R6492	Lee Wood	3.1964	Secondary woodland (W10)
SD088	Greysich Wood	3.403	Secondary woodland
R7967	Pig Close Pond	0.1262	Standing open water
	Swadlincote Woods	18.1516	Habitat mosaic



Semi natural grassland sites (regarded as Potential LWSs unless already designated as a LWS; not necessarily UK BAP habitat - may require survey)

<u>Ref No</u>	<u>Name</u>	<u>Area (ha)</u>	<u>UK/LBAP</u>	<u>Ecological feature</u>
SD R6379	Moxons Hill	10.9747	Needs surveying	Semi-improved acid grassland
SD R6380	Nether Hall Grassland	1.0435	Needs surveying	Semi-improved neutral grassland
SD R6280	Mill House Field	0.3387	Needs surveying	Semi-improved neutral grassland
SD R6278	Repton Road Field	1.4242	Needs surveying	Semi-improved neutral grassland
SD R6275	Springhill Field	0.534	Lowland meadow	Unimproved neutral grassland
SD R6292	Water Tower field	1.6116	Needs surveying	Semi-improved neutral grassland
SD398	Tadsor Farm Meadows	6.1288	Needs surveying	Semi-improved neutral grassland
SD385	Daniel Hay Field	6.2231	Lowland dry acid grassland	unimproved semi-natural dry acid grassland
SD377	Swadlincote Woods	1.8546	Needs surveying	Unimproved neutral grassland

Other recorded sites of interest

<u>Name</u>	<u>Ref No</u>	<u>Area (ha)</u>
Stone House Farm Spinney #1	SD027/3	0.63
Fox Covert	SD028/3	0.88

Ancient Woodland Site from the Ancient Woodland Inventory

Ancient & Semi-Natural Woodland

APPENDIX D

Floral Species List

Common Name	Latin Name
Apple spp.	<i>Malus spp.</i>
Black bryony	<i>Tamus communis</i>
Bramble	<i>Rubus fruticosus agg.</i>
Broad-leaved dock	<i>Rumex obtusifolius</i>
Cherry plum	<i>Prunus spp.</i>
Cleavers	<i>Galium aparine</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common bent	<i>Agrostis capillaris</i>
Common hogweed	<i>Heracleum sphondylium</i>
Common mouseear	<i>Cerastium fontanum</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping thistle	<i>Cirsium arvense</i>
Dandelion	<i>Taraxacum agg.</i>
Dog-rose	<i>Rosa canina</i>
Elder	<i>Sambucus nigra</i>
False oat-grass	<i>Arrhenatherum elatius</i>
Garlic mustard	<i>Alliaria petiolata</i>
Greater plantain	<i>Plantago major</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Hedge woundwort	<i>Stachys sylvatica</i>
Holly	<i>Ilex aquifolium</i>
Ivy	<i>Hedera helix</i>
Knotgrass	<i>Polygonum aviculare</i>
Male-fern	<i>Dryopteris filix-mas</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow foxtail	<i>Alopecurus pratensis</i>
Nettle	<i>Urtica dioica</i>
Perennial rye-grass	<i>Lolium perenne</i>
Pineapple weed	<i>Matricaria discoidea</i>
Red clover	<i>Trifolium pratense</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rough meadow-grass	<i>Poa trivialis</i>
Soft brome	<i>Bromus hordeaceus</i>
Spear thistle	<i>Cirsium vulgare</i>
Timothy	<i>Phleum pratense</i>
White clover	<i>Trifolium repens</i>
White dead-nettle	<i>Lamium album</i>
Willowherb spp.	<i>Epilobium spp.</i>
Yorkshire fog	<i>Holcus lanatus</i>

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