Land to rear of Firlands
Church Lane
Scaynes Hill
West Sussex
RH17 7NH

Preliminary Ecological Appraisal

Ref: R2430/b

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1 SUMMARY

1.1.1 John Wenman Ecological Consultancy LLP was commissioned by Draffin Associates Ltd to undertake a preliminary ecological appraisal of the land to the rear of Firlands in Scaynes Hill. The survey was commissioned to support the allocation of the site for future residential development.

1.1.2 The site is set on the outskirts of the rural village of Scaynes Hill and comprises pasture with boundary hedgerows. The surrounding landscape consists of open farmland with established hedgerows and woodland parcels.

1.1.3 A search of data held by the Sussex Biodiversity Records Centre (SBRC) showed that the site is not designated for its wildlife interest. However, the site has traditional farmland hedgerows – Habitats of Principle Importance (HPI) - that connect to ancient woodland less than 50 metres to the southeast of the site (Watlands Farm Wood). Scaynes Hill Common Local Wildlife Site (LWS) is less than 50 metres to the west of the site.

1.1.4 The site consisted of gently sloping damp pasture with a plant community characteristic of purple moor grass and rush pasture, an HPI. As a result, further botanical survey is recommended to establish the conservation value of the grassland. Historic OS mapping shows the change of land-use on site since 1874 and indicates that the site was an orchard in 1910 (remnants of this are present on site in the form of groups of mature apple trees).

1.1.5 The habitats present on site in combination with local records suggests that the presence of protected species is likely and therefore several surveys have been recommended in order to determine presence/absence and to guide future mitigation strategies:

- Great crested newt Habitat Suitability Index (HSI) assessment of six off-site ponds within a 250m radius of the site (in Watlands Farm Wood);
- A survey for the presence of reptiles on site; and
- A breeding bird survey in accordance with standard survey techniques.

1.1.6 Proposed habitat protection and mitigation measure have been outlined including: protection and buffering of retained boundary hedgerows; sensitive use of lighting during construction and post-development to avoid

impacts to bats and measures to prevent disturbance of nesting birds.

1.1.7 The development proposals present opportunities for ecological enhancement such as a community orchard, provision for nesting birds and roosting bats within the new houses and management of retained grassland on site for foraging owls and mammals.

2 INTRODUCTION

2.1 Overview

2.1.1 John Wenman Ecological Consultancy LLP was commissioned by Draffin Associates Ltd to undertake a preliminary ecological appraisal of the land to the rear of Firlands in Scaynes Hill, West Sussex.

2.1.2 The ecological survey was commissioned to support the allocation of the site for future residential development.

2.2 Site Location and Context

2.2.1 The land is located on the eastern side of Church Lane behind the newly built Downs View Close development in Scaynes Hill, West Sussex (OS grid reference: TQ 37155 23441).

2.2.2 The site is set on the outskirts of the rural village of Scaynes Hill and comprises pasture with boundary hedgerows. The surrounding landscape consists of open farmland with established hedgerows and woodland parcels. Watlands Farm is immediately east and Watlands Farm Wood ancient semi-natural woodland is approximately 50 metres from the site and includes a series of ponds and drains. Across Church Lane, less than 50 metres from site, is Scaynes Hill Common Local Wildlife Site (LWS) and beyond is the large ancient woodland expanse of Costell Wood managed by The Woodland Trust.

2.2.3 The open countryside with its network of hedgerows and woodland provides the habitat connectivity to support a wide range of key faunal groups such as amphibians, reptiles, birds and mammals.

2.3 Report format

2.3.1 There follows: an overview of the planning policy background in Section 3 and of the protected species legislation in Section 4; details of the survey methods in Section 5; background data search findings in Section 6; Phase 1 habitat survey findings in Section 7; a discussion of the survey findings in Section 8; with recommendations being presented in Section 9. The appendices present: the site photographs (**Appendix 1**); a Phase 1 habitat survey plan with associated target notes (**Appendix 2**); a plant species list

recorded during the survey (**Appendix 3**); and an illustrative site layout (**Appendix 4**).

3 PLANNING POLICY BACKGROUND

3.1 National Planning Policy

3.1.1 The ODPM Circular 06/2005 provides guidance on the application of the law relating to planning and nature conservation stating that *'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.'*

3.1.2 The Natural Environment and Rural Communities (NERC) Act 2006 requires all public bodies, including local authorities, to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'Biodiversity Duty'

3.1.3 The National Planning Policy Framework, published in March 2012, sets out the Government's planning policies for England and how they should be applied. Paragraph 117 of the NPPF states that *'To minimise impacts on biodiversity and geo-diversity, planning policies should promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan.'*

3.2 Local Planning Policy

3.2.1 Mid Sussex District Council adopted the Mid Sussex District Plan 2014-2031 as a Development Plan Document on the 28th March 2018 and it replaces the Mid Sussex Local Plan 2004 (other than saved Local Plan policies). The Plan sets out a vision for how Mid Sussex wants to evolve and a delivery strategy for how that will be achieved.

3.2.2 Policy DP37 within the District Plan sets out the Council's approach to Trees, Woodland and Hedgerows when considering planning applications as follows:

The District Council will support the protection and enhancement of trees, woodland and hedgerows, and encourage new planting. In particular, ancient woodland and aged or veteran trees will be protected.

Development that will damage or lead to the loss of trees, woodland or hedgerows that contribute, either individually or as part of a group, to the visual amenity value or character of an area, and/ or that have landscape, historic or wildlife importance, will not normally be permitted.

Proposals for new trees, woodland and hedgerows should be of suitable species, usually native, and where required for visual, noise or light screening purposes, trees, woodland and hedgerows should be of a size and species that will achieve this purpose.

Trees, woodland and hedgerows will be protected and enhanced by ensuring development:

- *incorporates existing important trees, woodland and hedgerows into the design of new development and its landscape scheme; and*
- *prevents damage to root systems and takes account of expected future growth; and*
- *where possible, incorporates retained trees, woodland and hedgerows within public open space rather than private space to safeguard their long-term management; and*
- *has appropriate protection measures throughout the development process; and*
- *takes opportunities to plant new trees, woodland and hedgerows within the new development to enhance on-site green infrastructure and increase resilience to the effects of climate change; and*
- *does not sever ecological corridors created by these assets.*

Proposals for works to trees will be considered taking into account:

- *the condition and health of the trees; and*
- *the contribution of the trees to the character and visual amenity of the local area; and*
- *the amenity and nature conservation value of the trees; and*
- *the extent and impact of the works; and*
- *any replanting proposals.*

The felling of protected trees will only be permitted if there is no appropriate alternative. Where a protected tree or group of trees is felled, a replacement tree or group of trees, on a minimum of a 1:1 basis and of an appropriate

size and type, will normally be required. The replanting should take place as close to the felled tree or trees as possible having regard to the proximity of adjacent properties.

Development should be positioned as far as possible from ancient woodland with a minimum buffer of 15 metres maintained between ancient woodland and the development boundary.

3.2.3 Policy DP38 within the District Plan sets out the Council's approach to conserving and enhancing areas of importance for biodiversity and nature conservation as follows:

Biodiversity will be protected and enhanced by ensuring development:

- *Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments; and*
- *Protects existing biodiversity, so that there is no net loss of biodiversity. Appropriate measures should be taken to avoid and reduce disturbance to sensitive habitats and species. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances); and*
- *Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to connect natural habitats and increase coherence and resilience; and*
- *Promotes the restoration, management and expansion of priority habitats in the District; and*
- *Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty; and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas, and Nature Improvement Areas.*

Designated sites will be given protection and appropriate weight according to their importance and the contribution they make to wider ecological networks.

Valued soils will be protected and enhanced, including the best and most versatile agricultural land, and development should not contribute to unacceptable levels of soil pollution.

Geodiversity will be protected by ensuring development prevents harm to geological conservation interests, and where possible, enhances such interests. Geological conservation interests include Regionally Important Geological and Geomorphological Sites.

4 LEGISLATIVE BACKGROUND – PROTECTED SPECIES

4.1 Amphibians

4.1.1 The seven native species of amphibian receive protection under the Wildlife & Countryside Act 1981 (as amended). The four widespread and common amphibians (common frog, toad, smooth and palmate newts) receive limited protection – making their sale illegal.

4.1.2 Great crested newts receives full protection under the Wildlife & Countryside Act 1981 (as amended) and under the Conservation (Natural Habitats &c.) Regulations 2017 ('Habitat Regulations') (as amended). These make it illegal to:

- Intentionally or recklessly kill, injure or take a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt;
- Intentionally or recklessly disturb great crested newts; in particular, any disturbance which is likely to impair their ability to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating animals, to hibernate or migrate.

4.1.3 The great crested newt and common toad are listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, (commonly referred to as a UKBAP Priority Species).

4.2 Reptiles

4.2.1 The four widespread reptiles most likely to be encountered (adder, grass snake, slow worm and viviparous lizard) are protected under the Wildlife & Countryside Act 1981 (as amended). The Act makes it an offence to intentionally kill, injure, possess or sell any of the species.

4.2.2 The four reptile species are listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural

Environment and Rural Communities Act 2006, (commonly referred to as a UKBAP Priority Species).

4.3 Birds

4.3.1 All wild birds are protected under the Wildlife & Countryside Act 1981 (as amended). The Act makes it an offence to kill, injure or take a wild bird or to damage or destroy the nest of a wild bird whilst in use or being built.

4.3.2 Less common bird species of conservation concern, such as the barn owl and kingfisher, are listed on Schedule 1 of the Act, which makes it an offence to disturb the birds whilst nesting also.

4.4 Bats

4.4.1 All British bat species are fully protected by the Wildlife & Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 ('Habitat Regulations'). In summary, the legislation combined makes it an offence to:

- Damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by a bat;
- Deliberately, intentionally or recklessly disturb bats; in particular any disturbance which is likely to impair the ability of bats to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating bats, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species;
- Deliberately kill, injure or take any bat.

4.5 Badgers

4.5.1 Badgers are protected by the Protection of Badgers Act 1992. The Act makes activities such as development that would harm or disturb badgers or damage, obstruct or destroy their setts illegal. If badgers are to be affected by the proposed development, activities can be undertaken only under a licence issued by Natural England.

4.6 Otters

4.6.1 Otters are fully protected by the Wildlife & Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 ('Habitat Regulations'). In summary, the legislation combined makes it an offence to:

- Damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by an otter;
- Deliberately, intentionally or recklessly disturb otters; in particular any disturbance which is likely to impair the ability of otters to survive, breed or reproduce or nurture their young; or to affect significantly the local distribution or abundance of the species;
- Deliberately kill, injure or take any otter.

4.7 Hazel Dormice

4.7.1 Hazel dormice receive full protection under the Wildlife & Countryside Act 1981 (as amended) and under the Conservation (Natural Habitats &c.) Regulations 2017 ('Habitat Regulations') (as amended). These make it illegal to

- Intentionally or recklessly kill, injure or take a dormouse;
- Possess or control any live or dead specimen or anything derived from a dormouse;
- Damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by a dormouse;
- Intentionally or recklessly disturb dormice; in particular any disturbance which is likely to impair their ability to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating animals, to hibernate or migrate.

4.7.2 The government's statutory conservation advisory organisation, Natural England, is responsible for issuing European Protected Species licences that would permit activities that would otherwise lead to an infringement of

the Habitat Regulations. A licence can be issued if the following three tests have been met:

- **Regulation 55(9)(a) -** there is "no satisfactory alternative" to the derogation, and;
- **Regulation 55(9)(b) -** the derogation "will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range" and;
- **Regulation 55(2)(e)** - the derogation is for the purposes of "preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment".

4.7.3 Local authorities have a statutory duty under Regulation 7(3e) of the Habitat Regulations to have regard to requirements of the Habitats Directive in the exercise of their functions. The Council must therefore consider and determine whether these three tests are likely to be satisfied by an application affecting European protected species before granting planning permission. **N.B. the requirements set out in 4.7.2 and 4.7.3 apply to development that would affect bats, great crested newts and otters, which are European Protected Species also.**

4.8 Water Voles

4.8.1 Since April 2008, water voles have received full protection under Section 9 of the Wildlife & Countryside Act 1981 (as amended). This makes it an offence to intentionally kill, injure or take water voles or to possess or control live or dead water voles or derivatives. It is an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.

4.8.2 The water vole is listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities Act 2006, (commonly referred to as a UKBAP Priority species).

4.9 Invasive Non-Native Plants

4.9.1 The Wildlife and Countryside Act 1981 (as amended) provides the primary controls on the release of non-native species into the wild in Great Britain. It is an offence under section 14(2) of the Act to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9, Part II. The species listed in the Act includes Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and himalayan balsam (*Impatiens glandulifera*).

4.10 Injurious Weeds

4.10.1 Five native plants are listed as injurious weeds under the Weeds Act 1959: common ragwort (*Senecio jacobaea*), spear thistle (*Cirsium vulgare*), creeping or field thistle (*Cirsium arvense*), broad-leaved dock (*Rumex obtusifolius*) and curled dock (*Rumex Crispus*). The Act means it is not an offence to have these weeds growing on your land and species such as ragwort have significant conservation benefits. However they must not be allowed to spread to agricultural land, particularly grazing areas or land which is used to produce conserved forage. Enforcement notices can be issued following complaints requiring landowners to take action to prevent the spread of these weeds.

4.11 Wild Mammals

4.11.1 Under the Wild Mammals (Protection) Act 1996 it is an offence to intentionally inflict unnecessary suffering, as specified by the Act, on any wild mammal.

5 SURVEY METHODS

5.1 Phase 1 Habitat Survey

5.1.1 An ecological walkover survey was undertaken on the 10th December 2019, by a full member and a graduate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). During the survey the habitats present were noted and plotted on a site plan (**Appendix 2**) using definitions based on the standard Phase 1 Habitat survey definitions (JNCC 2010). Key features of the site were photographed (**Appendix 1**) and plotted on the site plan using target notes (**Appendix 2**).

5.1.2 Any features of ecological importance were recorded, and plant species observed during the survey noted (**Appendix 3**). Particular attention was given to any evidence of the presence of protected species and the site's potential to support such species and those of conservation importance (as defined under Section 41 of the NERC Act 2006).

5.2 Background Data Search

5.2.1 The Sussex Biodiversity Records Centre (SBRC) was commissioned to undertake a search of the data held on protected and notable species within a 2 kilometre radius of the survey site. A 5 kilometre radius search of the Multi-Agency Geographical Information Centre (MAGIC) website was carried out to look for statutorily designated areas of international and national importance within the wider area, and for habitats of principal importance for conservation (HPI) as defined under the NERC Act 2006.

5.3 Survey Constraints

5.3.1 The survey was subject to seasonal constraints because not all plant and animal species are visible throughout the year and therefore the report represents a snapshot of the site at the time of the survey only. The plant species list presented should not be considered a comprehensive list of species present.

6 BACKGROUND DATA SEARCH FINDINGS

6.1 Habitats and Site Designations

6.1.1 The search of data held by the Sussex Biodiversity Records Centre (SBRC), in combination with the Multi-Agency Geographical Information Centre (MAGIC) website, shows that the survey site is not statutorily or non-statutorily designated for its wildlife interest. There is however, ancient semi-natural Ghyll woodland less than 50 metres to the southeast of the site called Watlands Farm Wood.

6.1.2 Two Sites of Special Scientific Interest (SSSIs) – statutorily designated sites of national importance – fall just within a 2 kilometre radius of the site: Chailey Common SSSI and Scaynes Hill SSSI. Chailey Common is a Local Nature Reserve (LNR) and is notified as a SSSI for its sub-Atlantic heathland plant communities which in turn support diverse invertebrate and bird assemblages. The Scaynes Hill SSSI is notified on geological grounds only.

6.1.3 There are three Local Wildlife Sites (LWSs) – non-statutorily designated sites for conservation importance within the county – inside the 2 kilometre search radius: Scaynes Hill Common Local Wildlife Site (LWS); Costells, Henfield and Nashgill Woods LWS and Walstead Cemetery LWS. Scaynes Hill Common LWS is across Church Lane, less than 50 metres to the west of the site, and is designated for its combination of semi-natural acid grassland, neutral grassland and woodland habitat.

6.2 Protected and Notable Species

6.2.1 The data held by SBRC includes a range of amphibian and reptile records within a 2 kilometre search radius of the site. The amphibian records include: common toad (*Bufo bufo*), palmate newt (*Lissotriton helveticus*), smooth newt (*Lissotriton vulgaris*), common frog (*Rana temporaria*) and great crested newt (GCN; *Triturus cristatus*). There is a GCN breeding pond approximately 330 metres to the southwest of the site called Anchor Pond in front of the Inn on the Green public house. The reptile records include: slow-worm (*Anguis fragilis*), grass snake (*Natrix helvetica*), adder (*Vipera berus*) and common lizard (*Zootoca vivipara*).

6.2.2 A wide range of protected and notable bird records are held by the SBRC inside the 2 kilometre search radius within the last 10 years. A number of records are species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) including: osprey (*Pandion haliaetus*), hobby (*Falco subbuteo*), peregrine (*Falco peregrinus*), green sandpiper (*Tringa ochropus*), barn owl (*Tyto alba*), woodlark (*Lullula arborea*), fieldfare (*Turdus pilaris*), redwing (*Turdus iliacus*), brambling (*Fringilla montifringilla*). Other notable records such as birds on the Birds of Conservation Concern Red List include: grey partridge (*Perdix perdix*), lapwing (*Vanellus vanellus*), turtle dove (*Streptopelia decaocto*), cuckoo (*Cuculus canorus*), skylark (*Alauda arvensis*), nightingale (*Luscinia megarhynchos*), song thrush (*Turdus philomelos*), marsh tit (*Poecile palustris*), starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), lesser redpoll (*Acanthis cabaret*), linnet (*Linaria cannabina*), yellowhammer (*Emberiza citrinella*) and reed bunting (*Emberiza schoeniclus*).

6.2.3 At least five bat species have been recorded within the search area, within the last 10 years: Alcothoe (*Myotis alcathoe*), Daubenton's (*Myotis daubentonii*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared (*Plecotus auritus*). The records held by SBRC include other terrestrial mammals: hazel dormouse (*Muscardinus avellanarius*) – a European Protected Species (EPS) – and hedgehog (*Erinaceus europaeus*) – a Species of Principle Importance (SPI) for conservation (under Section 41 of the NERC Act 2006).

7 SURVEY FINDINGS

7.1 Phase 1 Habitat Survey Findings

7.1.1 The site comprised damp pasture that gently sloped down into its southeastern corner. Gardens of surrounding residential properties backed onto the site in the north and the west; the site boundaries to the east and the south were defined by traditional farmland hedgerows. Mature apple trees were scattered in three distinct groups across the site.

7.1.2 The following Phase 1 habitat types were observed during the survey: marshy grassland, scattered broadleaved trees, species-rich hedgerow with trees, intact species-poor hedgerow, introduced shrub and a dry ditch.

7.1.3 The habitat types are detailed below; the site photographs are in **Appendix 1**, their distribution is shown on the site plan with associated target notes with detailed species compositions are described in **Appendix 2**, and a list of species recorded in **Appendix 3**.

Marshy grassland (MG1; TN1, TN2 & TN3)

7.1.4 The damp pasture sloped gently down to its southeastern corner (**Photograph 1; MG1**) and had a sward dominated by purple moor grass (*Molinia caerulea*) tussocks with abundant bent grasses (*Agrostis* spp.). Creeping thistle (*Cirsium arvense*) was locally abundant and there were occasionally distributed species including: Yorkshire fog (*Holcus lanatus*), cock's-foot (*Dactylis glomerata*), rushes (*Juncus* spp.), fescue (*Festuca* sp.), creeping buttercup (*Ranunculus repens*) and wood speedwell (*Veronica montana*). Bramble (*Rubus fruticosus* agg.) scrub was encroaching in the southeastern corner of the site (**Photograph 2; TN1**).

7.1.5 A strip of the grassland to the rear of the newly built South Downs View residential development had been seeded (**Photograph 3; TN2**) and was dominated by common knapweed (*Centaurea nigra*). The site entrance had been disturbed by the recent construction work (**Photograph 4; TN3**) and species that readily colonise waste ground were present, such as butterfly bush (*Buddleja davidii*) and Canadian fleabane (*Erigeron canadensis*). There was also an unfinished road, piles of building debris and a skip.

Scattered broadleaved trees (SBW1, SBW2 & SBW3)

7.1.6 There were mature apple trees (*Malus domestica*) scattered in three distinct groups across the site: four in the southeastern corner (**Photograph 5; SBW1**); four in the centre of the site with two cherry (*Prunus* sp.) trees (**Photograph 6; SBW2**) and three in the southwest of the site with hawthorn (*Crataegus monogyna*) and bramble (*Rubus fruticosus* agg.) scrub (**Photograph 7; SBW3**).

Native species-rich hedgerow with trees (RHT1 & RHT2)

7.1.7 The hedgerow running along the southern site boundary was intact and comprised a good number of native woody species (**Photograph 8; RHT1**) including: hazel (*Corylus avellana*), blackthorn (*Prunus spinosa*), hornbeam (*Carpinus betulus*), dog-rose (*Rosa canina*) and broom (*Cytisus scoparius*). The eastern end of the hedgerow formed a tree line consisting of: oak (*Quercas robur*), holly (*Ilex aquifolium*), silver birch (*Betula pendula*) and willow (*Salix* sp.); the western end comprised beech (*Fagus sylvatica*) and oak.

7.1.8 The hedgerow following the eastern site boundary separated the pasture from a neighbouring arable field and a wooded section of a residential garden (**Photograph 9; RHT2**). Adjacent to the arable field, the hedge had been cut and was dominated by hazel (*Corylus avellana*). The hedge incorporated trees from the garden and consisted of: ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*), willow (*Salix* sp.), blackthorn (*Prunus spinosa*), ivy (*Hedera helix*) and bramble (*Rubus fruticosus* agg.).

Intact native species-poor hedgerow (PH1)

7.1.9 A hedgerow was present on the northern site boundary at the bottom of neighbouring residential gardens (**Photograph 10; PH1**) had been recently cut and was dominated by hawthorn (*Crataegus monogyna*). The ground flora was limited to common nettle (*Urtica dioica*) and cleavers (*Galium aparine*).

Introduced shrub (IS1)

7.1.10 A thick and tall Cypress (*Cupressaceae* sp.) hedge was present to the east of the northern site boundary (**Photograph 11; IS1**).

Dry ditch (DD1)

7.1.11 There was a dry ditch running along the southern site boundary into the southeastern corner of the site (**Photograph 12; DD1**).

Signs of protected and/or notable fauna

7.1.12 There were a number of discarded chewed maize cobs amidst the grassland (**Photograph 13**) and large mammal tracks leading beneath stock fencing (**Photograph 14**) indicating possible badger (*Meles meles*) activity on site. Two adult fallow deer (*Dama dama*) were observed running across the site and a bedding spot was located beneath the group of apple trees furthest west.

8 DISCUSSION

8.1 Assessment of Existing Ecological Value

Habitats

8.1.1 The pre-existing data has shown that the survey site is not statutorily or non-statutorily designated for its wildlife interest and therefore it is not currently recognised as being of international, national or county level conservation significance. However, the gently sloping damp pasture covering the site has a plant community characteristic of purple moor grass and rush pasture – an HPI for conservation under Section 41 of the NERC Act 2006. Therefore, there is potential for the grassland to be of ecological value in a wider context and further botanical survey in the appropriate season would be required to establish its conservation value (refer to recommendations in **Section 9.1**).

8.1.2 The traditional farmland hedgerows are rich in native woody species and thus are representative of an HPI (under Section 41 of the NERC Act 2006). The species-rich hedgerows may have wider ecological importance under the Hedgerow Regulations (1997) if the hedgerow meets the criteria for being classified as 'important' as defined in the Wildlife and Landscape section of Schedule 1 (Part II). Furthermore, these hedgerows create corridors for local wildlife and connect the site to Watlands Farm Wood (ancient semi-natural Ghyll woodland), which is approximately 50 metres to the southeast and comprises a series of ponds and drains.

8.1.3 Historic Ordnance Survey (OS) mapping shows the change of land-use on site since 1874. In the late 1800s, Watlands Farm Wood extended across most of the site but by 1910 the entire site had been clear-felled and replanted. Therefore, it is likely that the small groups of mature apple trees (*Malus domestica*) on site are relicts from a traditional orchard - an HPI - that was mostly gone by the 1970s.

Amphibians

8.1.4 Great crested newts (GCN; *Triturus cristatus*) have been recorded locally and a breeding pond called Anchor Pond is located approximately 340

metres to the southwest of the site. Movement of individuals from this GCN breeding population onto site is likely to be obstructed by the A272 road and man-made infrastructure. There are no opportunities for breeding GCNs on site because no waterbodies are present and the ditch was mostly dry on the day of the survey and highly unlikely to consistently hold water during the breeding season.

8.1.5 There is, however, high quality terrestrial habitat on site for local GCNs to utilise for foraging and refuge. The damp, tussocky grassland provides food and cover, and the traditional farmland hedgerows provide sheltered corridors for the movement of GCNs across the landscape. The hedgerows (and ditch) connect to Watlands Farm Wood (approximately 50 metres to the southeast) which OS base mapping shows to possess at least six ponds within a 250 metre radius of the site. If GCNs are using those ponds for breeding, it is likely that newts will be utilising the terrestrial habitat on and around the site (refer to recommendations in **Section 9.2**).

Reptiles

8.1.6 The damp, tussocky pasture and traditional farmland hedgerows on site offer the structural diversity suitable for reptiles to forage, take cover and bask on site. Slow-worm (*Anguis fragilis*), common lizard (*Zootoca vivipara*), grass snake (*Natrix helvetica*) and adder (*Vipera berus*) have been recorded in the local area – an SPI for conservation as defined under Section 41 of the NERC Act 2006 – so it is considered likely that these species will be present on site (further survey would be required to determine if reptiles are present or likely to be absent – refer to recommendations in **Section 9.3**).

Breeding birds

8.1.7 The damp, tussocky pasture and traditional farmland hedgerows offer nesting and foraging habitat to locally recorded birds that utilise these habitats such as skylark (*Alauda arvensis*), grey partridge (*Perdix perdix*), lapwing (*Vanellus vanellus*), turtle dove (*Streptopelia decaocto*), cuckoo (*Cuculus canorus*), linnet (*Linaria cannabina*), yellowhammer (*Emberiza citrinella*) and reed bunting (*Emberiza schoeniclus*). Barn owls (*Tyto alba*) have been recorded in the local area and the tussocky grassland may be an important foraging resource for this species (further survey would be

required to determine the importance to farmland birds – refer to recommendations in **Section 9.4**).

Bats

8.1.8 The damp, tussocky pasture, scattered apple trees and traditional farmland hedgerows offer commuting and foraging habitat for bats. At least five bat species have been recorded within the local area indicating their likely presence in the vicinity of the site (refer to recommendations in **Section 9.5**).

8.1.9 There was no obvious suitable roosting habitat for bats on site but it is likely that bats will roost in the nearby properties and in the ancient semi-natural woodland (at Watlands Farm Wood) and use the site for foraging and commuting between sites.

Hazel dormice

8.1.10 The traditional farmland hedgerows along the site boundaries provide potential nesting habitat for the hazel dormouse (*Muscardinus avellanarius*) and connect to ancient semi-natural Ghyll woodland (Watlands Farm Wood). There are a number of dormouse records within a 2 kilometre radius of the site; all occurring to the west of the site, with the nearest located within Henfield Wood approximately 690 metres north. The landscape surrounding the site has suitable woodland habitat with a network of wildlife corridors suitable for supporting a population of dormice, and therefore there is potential for dormice to be present in the hedgerows on site (refer to recommendations in **Section 9.6**).

Badgers (and other mammals)

8.1.11 There are no local records of badger (*Meles meles*) and no sett entrances were located on site. However, there were a number of discarded chewed maize cobs amidst the grassland and large mammal tracks leading beneath stock fencing indicating possible badger activity on site.

8.1.12 The damp, tussocky pasture and the traditional farmland hedgerows offer suitable habitat to fallow deer (*Dama dama*) and locally recorded hedgehog (*Erinaceus europaeus*) – an SPI (under Section 41 of the NERC Act 2006).

8.2 Impact of Proposals

Statutory Designated Sites

8.2.1 Chailey Common SSSI is just less than 2 kilometres to the southeast of the site boundary. Taking into account the distance of the site from the SSSI, it is predicted that there would be no significant direct impacts during the construction phase of the proposed development of the site. The site falls within the Impact Risk Zone as depicted on MAGIC, but the rural residential development category indicates that there would be no adverse impact on the SSSI.

Habitats

8.2.2 The illustrative site layout visualises the future residential allocation outlining the footprint of development and the landscaping/ecological enhancement on site (refer to illustrative site layout in **Appendix 4**). The proposed landscaping scheme retains the traditional farmland hedgerows (which connect the site to Watlands Wood Farm ancient semi-natural Ghyll woodland) and seeks to further enhance the site through creating a wildlife pond and tree planting. A habitat buffer between the development and the hedgerows is recommended to reduce any impacts in the future and maintain a well-connected green infrastructure across the site (refer to recommendations in **Section 9.1**).

8.2.3 The proposals will result in the clearance of most of the grassland and the felling of two-thirds of the scattered apple trees. The grassland is damp, tussocky pasture that has potential to be a HPI and support a range of protected and notable species. The apple trees are mature, and are potentially the relicts from a 1910s traditional orchard. The ecological enhancement scheme could incorporate a community orchard in order to achieve a net gain in biodiversity, restore an historic HPI and encourage local residents to look after their local patch (refer to ecological enhancements in **Section 9.7**).

Amphibians

8.2.4 The clearance of grassland may harm individual great crested newts utilising the terrestrial habitat on site and therefore the six off-site ponds (within a

250 metre radius of the site) in Watlands Farm Wood should be assessed for suitability for breeding newts (refer to recommendations in **Section 9.2**).

Reptiles

8.2.5 The clearance of grassland would have the potential to harm any reptiles present on site in the absence of mitigation. Therefore, a survey to establish if reptiles are present or likely to be absent is required to assess whether the proposals would have an adverse impact on reptiles, and if present, to guide appropriate mitigation measures (refer to recommendations in **Section 9.3**).

Breeding birds

8.2.6 The clearance of grassland would have the potential to adversely impact ground-nesting farmland birds and destroy important foraging habitat. Therefore, a breeding bird survey is recommended in order to determine the species present and assess the likely impact of development (refer to recommendations in **Section 9.4**).

Bats

8.2.7 The hedgerow boundaries are important foraging and commuting routes for bats and these are to be retained unaffected by the proposals with a recommendation for a buffer to protect the hedgerow from the development and future management (refer to recommendations in **Section 9.1 and 9.5**).

8.2.8 Artificial lighting has been shown to alter the activity of nocturnal species and certain bat species have been found to be especially averse to lighting and actively avoid lit areas. Bats that emerge later in the evening, such as *Plecotus* and *Myotis* species, have a reduced tolerance to lighting. As the intensity of light increases, even species that are relatively light tolerant, such as *Pipistrellus* species, are delayed in their emergence from their roosts (Fure 2006). Pipistrelle bats can cope with light levels above 14 lux whilst light-sensitive species such as Daubenton's bat struggle with light levels above 1 lux (Fure 2006).

8.2.9 In order to avoid disturbance to bats using the site as a foraging and commuting resource, lighting should be kept to a minimum e.g. by using lighting controlled by passive infra-red motion-sensors, and/or low-level and

low intensity lighting wherever possible, and dark corridors should be retained on the hedgerow boundaries (refer to recommendations in **Section 9.5**).

Hazel dormice

8.2.10 It is possible that hazel dormice (*Muscardinus avellanarius*) are utilising the traditional farmland hedgerows along site boundaries to the east and the south (and some of the north). The illustrative site layout indicates that the hedgerows on site will be retained unaffected by the proposals and enhanced in order to achieve a biodiversity net gain. However, a buffer zone must be created to prevent the risk of harming individuals during site construction and to protect dormouse habitat (refer to recommendations in **Section 9.1 and 9.6**).

8.2.11 The number of domestic cats (*Felis catus*) on site is likely to increase as a result of the new development and this may lead to an increase in predation of dormice using the boundary hedgerows. In order to minimise the increased risk of predation by cats, specific impenetrable species should be chosen within the planting scheme for a 5 metre buffer zone to limit access to the hedgerows (refer to **Section 9.1 and 9.6**).

Badgers (and other mammals)

8.2.12 There are no confirmed active or inactive badger sett entrances on site and the ecologically enhanced areas of the site will continue to provide foraging habitat for badgers and other mammals currently using the site.

9 RECOMMENDATIONS

9.1 Habitats

9.1.1 A detailed botanical survey of the grassland should be carried out between mid-May and mid-June. The survey should record the plant species present, paying attention to notable and protected species, and indicators of plant communities of conservation interest. The survey should set out to determine the NVC community present and whether the grassland should be designated as purple moor grass and rush pasture priority habitat (Habitat of Principle Importance for conservation under Section 41 of the NERC Act 2006).

9.1.2 The boundary hedgerows on site should be protected during construction to provide continued nesting habitat for farmland birds and commuting habitat for bats. The following protection measures are recommended:

- Erection of Heras fencing along the hedgerows and woodland edge in advance of site clearance, enclosing tree Root Protection Areas;
- Prohibition of construction activities, material storage, use of vehicles, fires etc. within the fenced area to prevent damage to tree roots and compaction of the soil; and
- Maintenance of an adequate water supply to the hedgerows and woodland both during and after construction.

9.1.3 The loss of scattered trees on site should be compensated by planting native scattered trees and species-rich hedgerows on site linking to the hedgerow boundaries to provide a green infrastructure network across the site.

9.1.4 A 5 metre buffer between the boundary hedgerows and the development would be an appropriate measure to ensure habitat for a range of faunal groups is protected during construction and retained in the long-term. In the long-term, the buffer should create an ecotone that offers a gradual transition of vegetation from rough grass to scrub to hedgerow.

9.2 Amphibians

9.2.1 Habitat Suitability Index assessments of the six off-site ponds (within a 250 metre radius of the site) in Watlands Farm Wood should be carried out, and

if any are shown to be suitable great crested newt habitat, a full presence/absence survey or eDNA analysis of water samples should be undertaken between mid-March and June in accordance with good practice guidance (English Nature 2001).

9.3 Reptiles

9.3.1 A survey for the presence of reptiles should be carried out. The survey should comprise a minimum of seven survey visits to check artificial refugia set out on the site in advance; surveys should be carried out between March and September and within this period are most reliable when carried out in April, May or September (Froglife 1999).

9.3.2 In the event that reptiles are shown to be present, there is a risk that they could be harmed by the proposed development works. A mitigation strategy will need to be compiled to be agreed by the local planning authority to avoid harm or injury to reptiles during the works.

9.4 Breeding birds

9.4.1 A breeding bird survey should be carried out in accordance with standard survey techniques to determine the species present to guide habitat protection measures and ecological enhancement such as the Common Bird Census.

9.4.2 All wild birds are protected under the Wildlife & Countryside Act 1981 (as amended). The Act makes it an offence to kill, injure or take a wild bird or to damage or destroy the nest of a wild bird whilst in use or being built. Therefore to minimise the risk of disturbing nesting birds during any tree (i.e. apple trees) or scrub (i.e. bramble and hawthorn around apple trees) removal, the work should be timed to be completed outside of the peak bird nesting season (May to August) or following an inspection by an ecologist confirming that there is no current nesting activity the peak bird nesting season. In the event that nesting birds are discovered prior to or during the course of any work, it should stop immediately and should continue only once bird nesting has finished i.e. young have fledged and left the nest.

9.5 Bats

9.5.1 During construction, lighting should be kept to a minimum and if security lighting is required, this should be controlled by passive infra-red motion-sensors with no light spillage on to any existing linear features likely used by bats, i.e. the existing hedgerow boundaries.

9.5.2 In the long-term, dark corridors should be retained on site along existing hedgerow boundaries thereby maintaining foraging and commuting corridors for bats across the site. Column height, light source, motion-sensors and light spillage should be considered when designing the lighting. If brighter lighting is required, low or high pressure sodium lights should be used instead of mercury and metal halides, and luminaires or other directional light accessories should be used to ensure that light spillage, particularly onto hedgerows and areas of proposed planting/landscaping, is avoided (BCT and ILE, 2008). Turning off lighting at night will avoid extended periods of time when areas would be lit and this can be tailored to suit human health and safety as well as wildlife needs. As detailed above in Section 9.1, a 5 metre buffer between hedgerow and development will help to maintain dark commuting corridors along the hedgerow boundaries.

9.6 Hazel Dormice

9.6.1 As detailed above in Section 9.1, a 5 metre buffer zone around the hedgerow boundaries should be created prior to the construction phase of development. Heras fencing should be erected to prevent construction activities taking place within the buffer zone. During the landscaping phase, the shrub and tree planting should aim to retain this 5 metre buffer zone in order to protect dormouse habitat in the long-term. Species that can act as impenetrable barriers such as blackthorn (*Prunus spinosa*) and hawthorn (*Crataegus monogyna*) will deter domestic cats from accessing the hedgerow and therefore reduce the risk of dormice predation.

9.7 Ecological Enhancements

9.7.1 The development proposals provide opportunities for the enhancement of the site's biodiversity value. The inclusion of the following recommendations

would be of ecological benefit and be in line with the National Planning Policy Framework (NPPF):

- The creation of a wildlife-friendly pond in the southeastern corner of the site to act as both a drainage basin and habitat beneficial to a range of faunal groups, particularly amphibians, reptiles and invertebrates. The pond profile would need to be designed to offer a variety of niches to maximise the diversity of species colonising the pond;

- The creation of a community orchard in the landscaping scheme would encourage new residents to engage with village life and take pride in local wildlife. It would give residents a place for community activities and the opportunity to cultivate local varieties of fruit trees and try bee-keeping. All the while, restoring an HPI for conservation (under Section 41 of the NERC Act 2006) which would be an important component within the District's green infrastructure;

- The incorporation of integral nesting boxes for house sparrows in the new houses which have been locally recorded would create further nesting opportunities for house sparrows;

- The incorporation of integral roosting boxes for bats in the new houses to enhance the roosting opportunities on site;

- The planting of only native tree and shrub species of local provenance as part of the landscaping scheme; and

- Grassland management in the ecological enhancement areas to provide tussocky grassland for foraging owls and foraging mammals.

10 REFERENCES

Bat Conservation Trust and Institute of Lighting Engineers (ILE) (2008) *Bats and Lighting in the UK.* Bats and the Built Environment Series. Version 2, May 2009.

Collins, J. (ed.) (2016). *Bat Surveys for Professional Ecologists – Good Practice Guidelines.* 3rd Edition. Bat Conservation Trust, London.

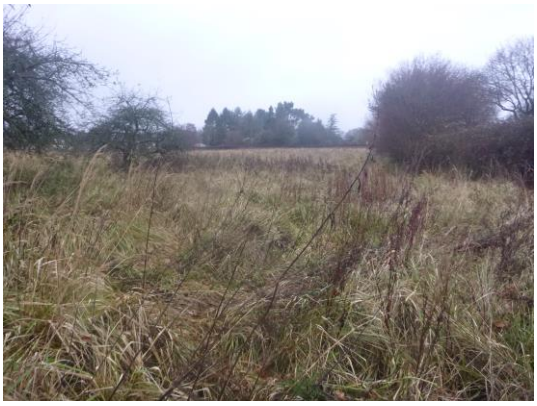
English Nature (2001). *Great crested newt mitigation guidelines.* English Nature, Peterborough.

Joint Nature Conservation Committee (JNCC) (2010). *Handbook for Phase 1 habitat survey – A technique for environmental audit*. JNCC, Peterborough.

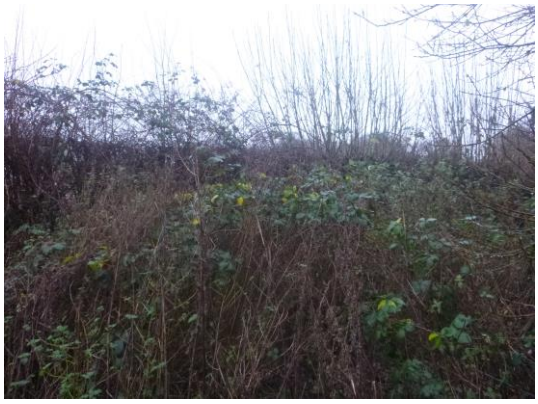
Mitchell-Jones, A. J. (2004). *Bat mitigation guidelines*. English Nature, Peterborough.

Mitchell-Jones, A. J. & McLeish, A. P. (2004). *Bat Workers' Manual (3rd Edition)*. JNCC, Peterborough.

APPENDIX 1 - SITE PHOTOGRAPHS

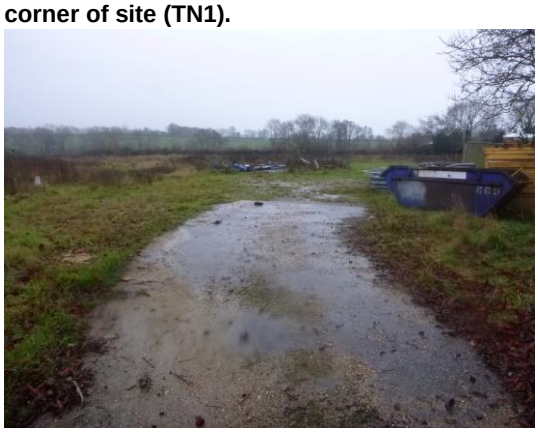


1. Damp pasture viewed from southeastern corner of site (MG1).

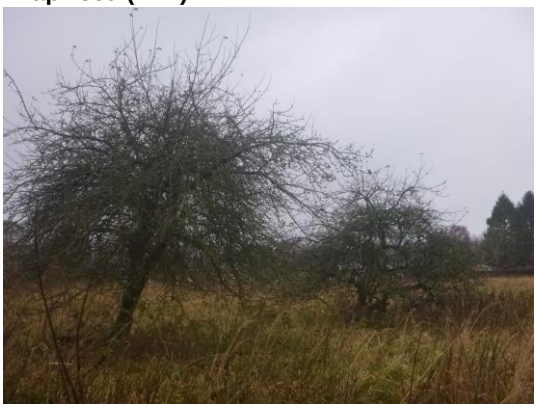


2. Bramble scrub encroachment in southeast corner of site (TN1).

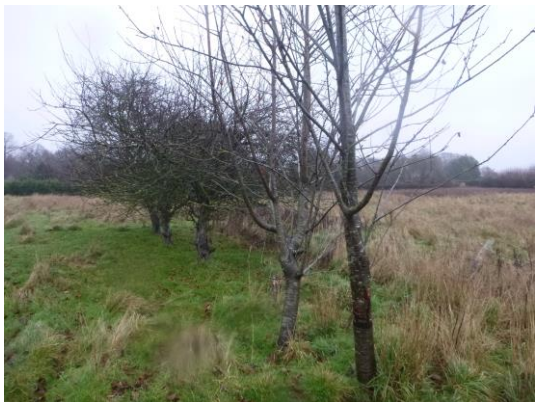
3. Seeded grassland dominated by common knapweed (TN2).



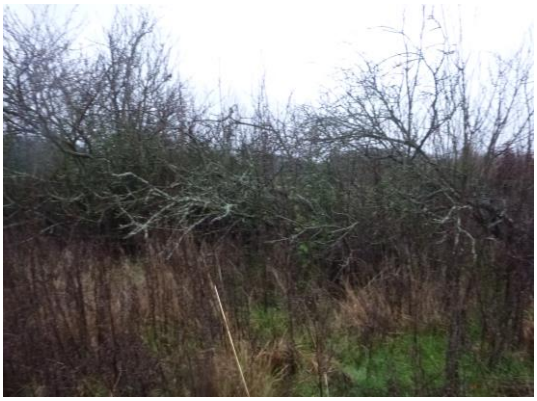
4. Entrance to site (TN3).



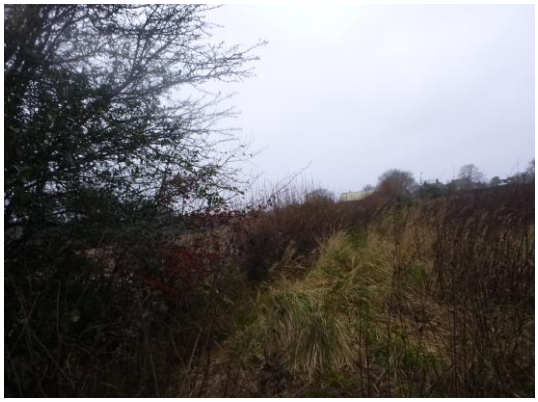
5. Mature apple trees in southeastern corner of site (SBW1).



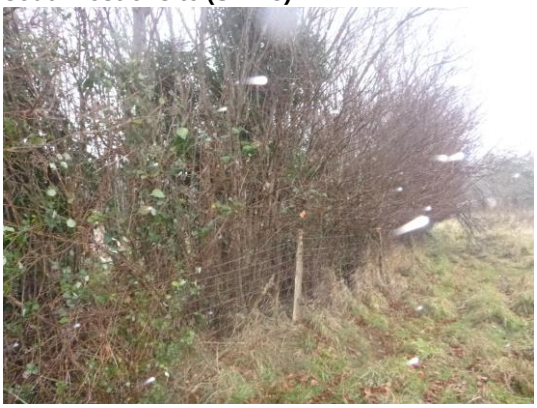
6. Mature apple trees and two cherry trees in centre of site (SBW2).



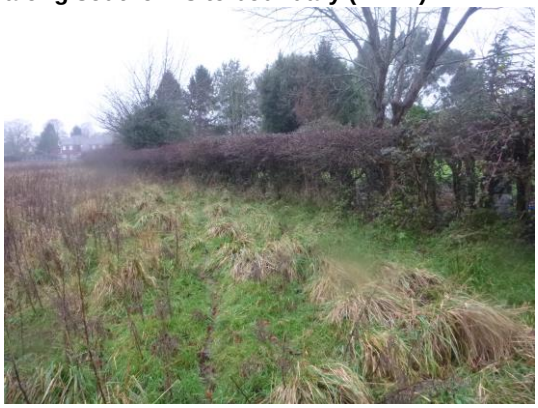
7. Mature apple trees and scrub near in southwest of site (SBW3).



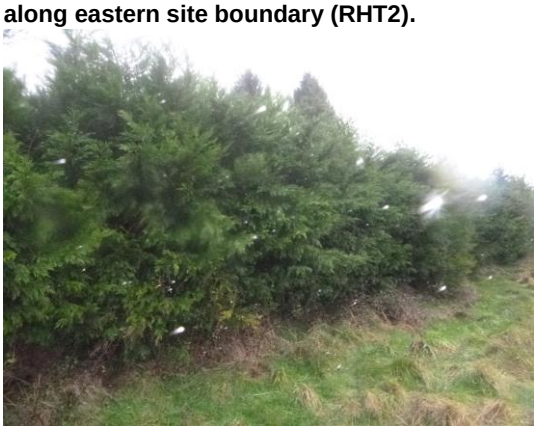
8. Native species-rich hedgerow with trees along southern site boundary (RHT1).



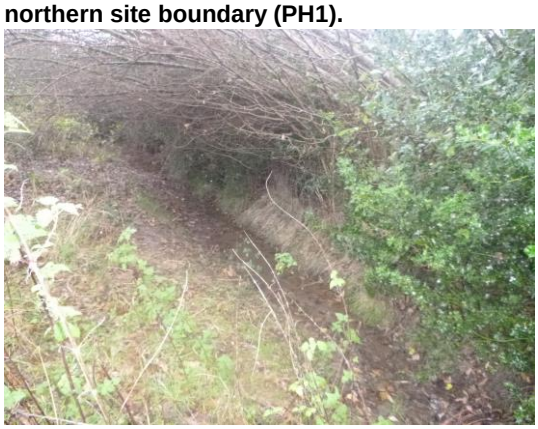
9. Native species-rich hedgerow with trees along eastern site boundary (RHT2).



10. Regularly cut hawthorn hedge on northern site boundary (PH1).

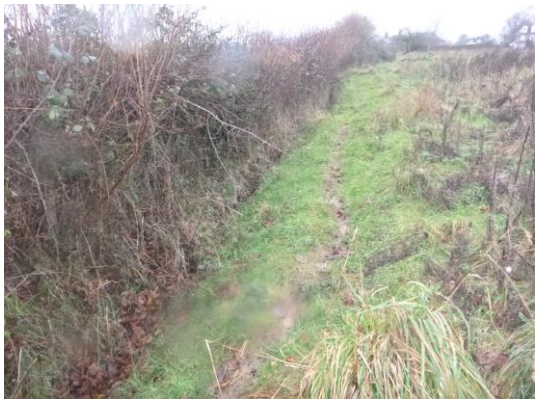


11. Cypress hedge to east of northern site boundary (IS1).



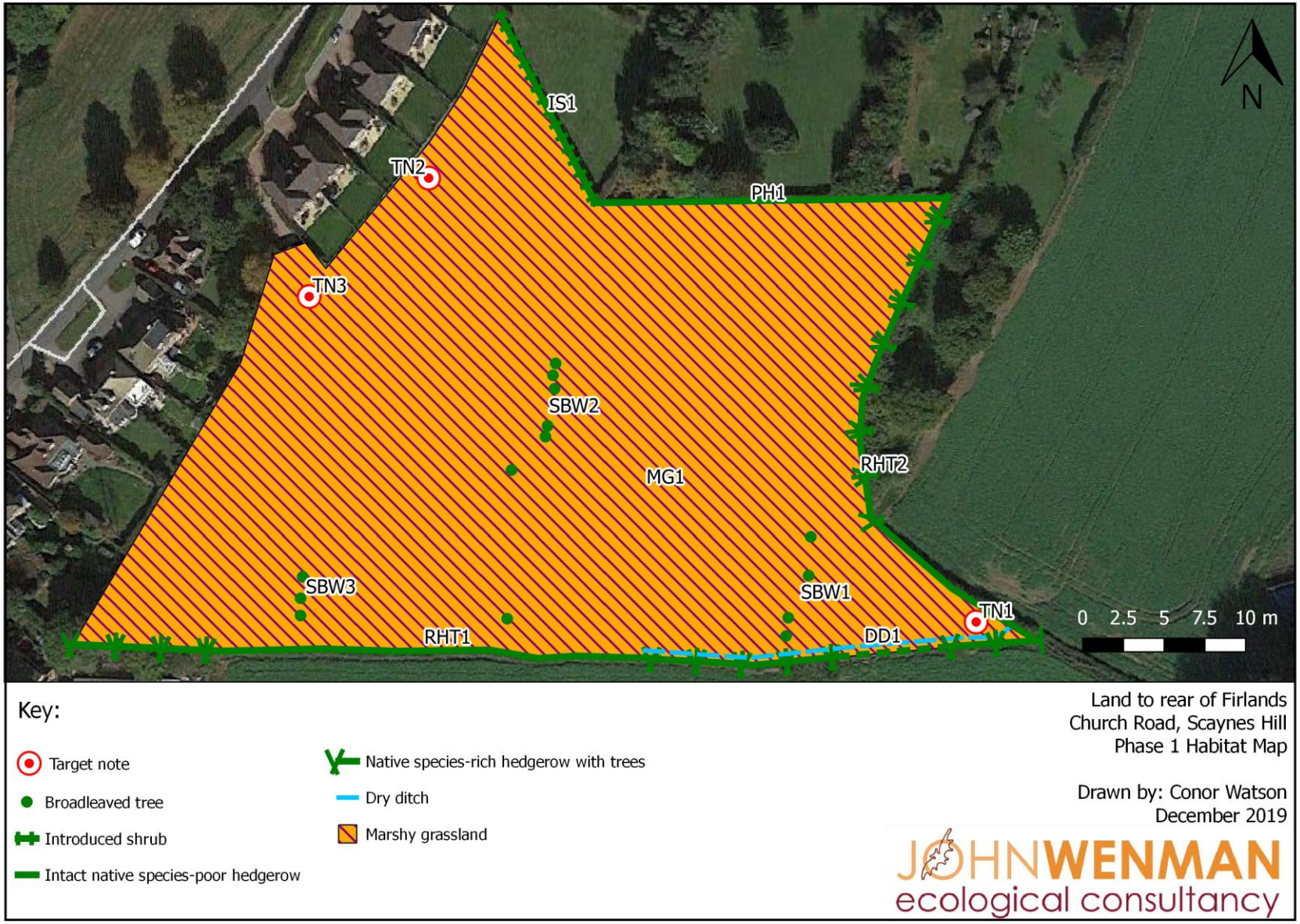
12. Dry ditch in southeastern corner of site (DD1).

13. Discarded and chewed maize cob in grassland.



14. Large mammal tracks leading beneath stock fencing.

APPENDIX 2 - PHASE 1 HABITAT SURVEY PLAN



PHASE 1 HABITAT SURVEY NOTES

Habitat code	Habitat Description
MG1 (1.9ha)	**Marshy grassland** – Gently sloping damp pasture (**Photograph 1**). Species recorded: purple moor grass (*Molinia caerulea*), bent (*Agrostis* spp.), creeping thistle (*Cirsium arvense*), Yorkshire fog (*Holcus lanatus*), cock's-foot (*Dactylis glomerata*), rushes (*Juncus* spp.), fescue (*Festuca* sp.), creeping buttercup (*Ranunculus repens*), wood speedwell (*Veronica montana*) and false oat grass (*Arrhenatherum elatius*).
SBW1	**Scattered broadleaved trees** – Group of four mature apple (*Malus domestica*) trees (**Photograph 5**).
SBW2	**Scattered broadleaved trees** – Group of four mature apple (*Malus domestica*) trees and two cherry (*Prunus* sp.) trees (**Photograph 6**).
SBW3	**Scattered broadleaved trees** – Group of three mature apple (*Malus domestica*) trees with hawthorn (*Crataegus monogyna*) and bramble (*Rubus fruticosus* agg.) scrub (**Photograph 7**).
RHT1 (225m)	**Native species-rich hedgerow with trees** – Intact hedgerow on southern site boundary (**Photograph 8**). Species recorded: hazel (*Corylus avellana*), blackthorn (*Prunus spinosa*), hornbeam (*Carpinus betulus*), dog rose (*Rosa canina*), broom (*Cytisus scoparius*), oak (*Quercas robur*), holly (*Ilex aquifolium*), silver birch (*Betula pendula*), willow (*Salix* sp.) and beech (*Fagus sylvatica*).
RHT2 (130m)	**Native species-rich hedgerow with trees** – Intact hedgerow on eastern site boundary (**Photograph 9**). Species recorded: hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), hawthorn (*Crataegus monogyna*), holly (*Ilex aquifolium*), willow (*Salix* sp.), blackthorn (*Prunus spinosa*), ivy (*Hedera helix*) and bramble (*Rubus fruticosus* agg.).
PH1 (80m)	**Intact species-poor hedgerow** – Intact hedgerow on northern site boundary (**Photograph 10**) Species recorded: hawthorn (*Crataegus monogyna*), common nettle (*Urtica dioica*), cleavers (*Galium aparine*) and bracken (*Pteridium aquilinum*).
IS1 (50m)	**Introduced shrub** – Cypress (*Cupressaceae* sp.) hedge present to east of northern site boundary (**Photograph 11**).
DD1 (60m)	**Dry ditch** – Dry ditch running along southern site boundary into southeastern corner of site (**Photograph 12**).
TN1	**Target note** – Encroaching bramble (*Rubus fruticosus* agg.) scrub (**Photograph 2**).
TN2	**Target note** – Strip of seeded grassland dominated by common knapweed (*Centaurea nigra*) (**Photograph 3**). Species recorded: common sorrel (*Rumex acetosa*), common mallow (*Malva neglecta*), ribwort plantain (*Plantago lanceolata*) and vetch (*Vicia* sp.).
TN3	**Target note** – Site entrance disturbed by the recent construction work with unfinished road, piles of building debris and a skip (**Photograph 4**) Species recorded: butterfly bush (*Buddleja davidii*) and Canadian fleabane (*Erigeron canadensis*).

APPENDIX 3 - PLANT SPECIES RECORDED DURING THE SURVEY

Plant common name	**Scientific name**
Apple	*Malus domestica*
Bent	*Agrostis* spp.
Blackthorn	*Prunus spinosa*
Bracken	*Pteridium aquilinum*
Bramble	*Rubus fruticosus* agg.
Butterfly bush	*Buddleja davidii*
Canadian fleabane	*Erigeron canadensis*
Cherry	*Prunus* sp.
Chickweed	*Stellaria* sp.
Cleavers	*Galium aparine*
Cock's-foot	*Dactylis glomerata*
Common knapweed	*Centaurea nigra*
Common mallow	*Malva neglecta*
Common nettle	*Urtica dioica*
Common sorrel	*Rumex acetosa*
Creeping buttercup	*Ranunculus repens*
Creeping thistle	*Cirsium arvense*
Cypress	*Cupressaceae* sp.
Dog rose	*Rosa canina*
False oat grass	*Arrhenatherum elatius*
Fescue	*Festuca* sp.
Hawthorn	*Crataegus monogyna*
Hazel	*Corylus avellana*
Holly	*Ilex aquifolium*
Hornbeam	*Carpinus betulus*
Ivy	*Hedera helix*
Purple moor grass	*Molinia caerulea*
Ribwort plantain	*Plantago lanceolata*
Rush	*Juncus* spp.
Vetch	*Vicia* sp.
Willow	*Salix* sp.
Wood speedwell	*Veronica montana*
Yarrow	*Achillea millefolium*
Yorkshire fog	*Holcus lanatus*

APPENDIX 4 – ILLUSTRATIVE SITE LAYOUT