

Land at North End Road, Yapton, West Sussex

January 2020

Land at North End Road, Yapton, West Sussex

Preliminary Ecological Appraisal Report

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Abbreviations

CHS	Conservation of Habitats and Species Regulations 2017
EPS	European Protected Species
GCN	Great crested newt
HSI	Habitat Suitability Index
LNR	Local Nature Reserve
NERC	Natural Environment and Rural Communities Act 2006
PEA	Preliminary Ecological Assessment
PRF	Potential (bat) Roost Feature
SxBRC	Sussex Biodiversity Records Centre
TN	Target Note
WCA	Wildlife & Countryside Act 1981 (as amended)

0 Executive Summary

0.1 Introduction

- 0.1.1 A Preliminary Ecological Appraisal was undertaken for the site of a proposed residential development on Land at North End Road in Yapton, West Sussex (Grid Reference: 497671, 103689). The report was prepared to establish the site's suitability for development, inform the design process for the development proposal, record the ecological baseline and identify key ecological features within and around the proposal site.

0.2 Results

- 0.2.1 There are no designated wildlife sites within the 2km desk study search area. There are records of a range of protected or notable species in the locality, including amphibians, birds, fish, invertebrates, terrestrial mammals, flowering plants and terrestrial reptiles, together with five priority habitats: Chalk stream, Lowland fen, Coastal & floodplain grazing marsh, Deciduous woodland, Wood-pasture & parkland. Ancient woodland was also recorded within 2km of the site. None of these are shown as present within the survey area.
- 0.2.2 The survey area is located to the west of North End Road and lies to the north west of Yapton Village Centre in the Arun district of West Sussex. The site comprises c.4.6ha of undeveloped land, currently dominated by improved grassland, with hedgerows, trees, tall ruderal vegetation, scrub, two agricultural buildings and hard-standing. The wider landscape is dominated by open pasture and farmland with connecting hedgerows and woodland to the north east and north west. The settlement of Yapton is located to the west and south west. No ponds lie within 250m of the survey area.

0.3 Evaluation

- 0.3.1 Table 0.1 presents a summary of ecological constraints and opportunities identified within the survey area.

Table 0.1: Summary of ecological constraints and opportunities

Feature	Detail
Constraints:	
Designated sites	There are no designated wildlife sites within the 2km desk study search area and therefore the development proposals will not have an effect on any designated sites.
Priority habitats	The hedgerow priority habitats are of comparatively greater ecological value. These features are focused on some of the site boundaries and provide habitats suitable for a range of protected species, are of value in their own right and should if possible be retained and protected during construction. Approximately 46.5m of species-poor

Feature	Detail
	hedgerow H4 would be removed to facilitate construction of a new site access to the northern part of the site from North End Road. This would be offset by native species-rich hedgerow creation and enhancement as part of the landscaping strategy for the development as a whole.
Improved grassland, Tall ruderal, Scrub, Trees	Permanent losses of up to 4.5ha of improved grassland across the site, with small areas of tall ruderal and scrub, and potential losses of young and semi-mature scattered trees, depending on the extent and layout of development proposals. These areas are of comparatively little intrinsic value but provide habitats suitable for a number of protected species (e.g. nesting birds and reptiles).
Birds (nesting)	Possible permanent loss of nesting habitats (trees, hedgerow and scrub).
Bats (foraging / commuting)	Permanent loss of low suitability habitat (grassland and hedgerows) for foraging and commuting bats.
Reptiles	Permanent loss of potentially suitable habitats (grassland, tall ruderal, scrub, hedgerow, bank, brash/log piles). It is currently unknown whether reptiles are present on site.
Opportunities:	
Priority habitats	The hedgerow priority habitats within the survey area are of comparatively greater ecological value could provide a focus for ecological enhancement measures (see below).
Habitat creation / enhancement	Habitat creation and enhancement opportunities include wildflower meadow planting, hedgerow creation/restoration, hibernacula and bird/bat boxes.

0.4 Recommendations

- 0.4.1 Recommendations are made for further protected species surveys, together with preliminary recommendations for the protection of important ecological features to avoid or mitigate ecological impacts, and to deliver ecological net gain on site post-construction; these are summarised in Table 0.2. It is intended that these preliminary recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. It is further intended that these preliminary recommendations should be revised following the completion of further ecological surveys, and changes may also be necessary if the development proposals are amended.

Table 0.2: Summary of recommendations

#	Summary of recommendations
Protected species surveys	
R1	Bat activity surveys, undertaken between April and October. The surveys are partially complete and an interim report was issued in January 2020.
R2	Presence / absence surveys for reptiles, undertaken between April and September within suitable habitats on site unless the current intensive grazing regime is maintained. Grazing has continued since the site survey in March 2019.
Precautionary measures	
R3	Removal of nesting bird habitats should be undertaken outside of the bird nesting season, which runs from 1 March to 31 August. It should therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above, as other protected species may still be present outside of the bird breeding season.
R4	Assuming the currently intensive grazing regime within grassland habitats on site can be maintained, vegetation clearance works in the sheep grazed fields to the south and west of hedgerow H3, and areas of scrub, tall ruderals and bank/log/rubble piles at TN1 to TN6 should be undertaken during the reptile active season (broadly March/April to September/October) and in accordance with a Precautionary Method Working Statement to reduce the risk of killing/injury to reptiles.
Ecological protection measures	
R5	The hedgerow priority habitats within the survey should where possible be retained and protected during construction, and could also provide a focus for ecological enhancement measures.
R6	Standard site procedures to prevent impacts on trees should be adhered to during construction.
R7	The use of external lighting should be avoided or minimised to prevent impacts to nocturnal species such as bats. Lighting should not be directed towards the boundary hedgerows.
R8	At the end of each working day excavations should be covered over and open pipework should be capped to prevent impacts on mammals and other fauna.
R9	To enable dispersal of small mammals across the site and within the local area following development, small access gaps to measure c.13x13cm are recommended to be provisioned at the base of all new fence boundaries.
R10	Where rabbit warrens are to be damaged or destroyed as part of the proposed works, this should be done in accordance with the Mammals Act 1996 by a registered pest control company.
Ecological net gain	
R11	Green spaces should be sown with a locally-sourced native wildflower and grass seed mix.
R12	Hedgerow creation and enhancement should use a range of native fruit, seed, nut and nectar-bearing species shrub species of local provenance.
R13	Hibernacula for reptiles and amphibians could be created within areas of retained habitat.

#	Summary of recommendations
R14	The value of the site for birds could be enhanced by installing a range of artificial nest boxes onto new buildings and retained trees.
R15	The value of the site for bats could be enhanced by installing a range of artificial roost boxes onto new buildings and retained trees.

1 Introduction

1.1 Purpose of this Report

- 1.1.1 This report presents a Preliminary Ecological Appraisal for the site of a proposed residential development on Land at North End Road in Yapton, West Sussex (Grid Reference: 497671, 103689). The report has been prepared to establish the site's suitability for development, inform the design process for the development proposal, record the ecological baseline and identify key ecological features within and around the proposal site.

1.2 Objectives and Approach of the Study

- 1.2.1 The objectives of the Preliminary Ecological Appraisal were to:
- ✧ Identify features present on the site or adjacent which are ecologically significant and which may act as constraints or opportunities to the proposed development;
 - ✧ Consider the need for further ecological surveys which may be necessary; and
 - ✧ Make preliminary recommendations for the protection of ecological features, to avoid or mitigate ecological impacts, and to enhance the ecology of the site post-construction, with the aim of achieving an overall net gain for biodiversity.
- 1.2.2 The approach to establishing the ecological baseline found within this report has been achieved through:
- ✧ A desk study involving a review of statutory and non-statutory nature conservation sites, and records of habitats and species from the local area (2km radius from the centre of the proposed development site);
 - ✧ An extended Phase 1 habitat survey identifying the main habitats on site and adjacent, and the presence of, or potential for, protected and/or notable species; and
 - ✧ A Preliminary Ecological Appraisal of the effects of development proposals with respect to the nature conservation value of the site.

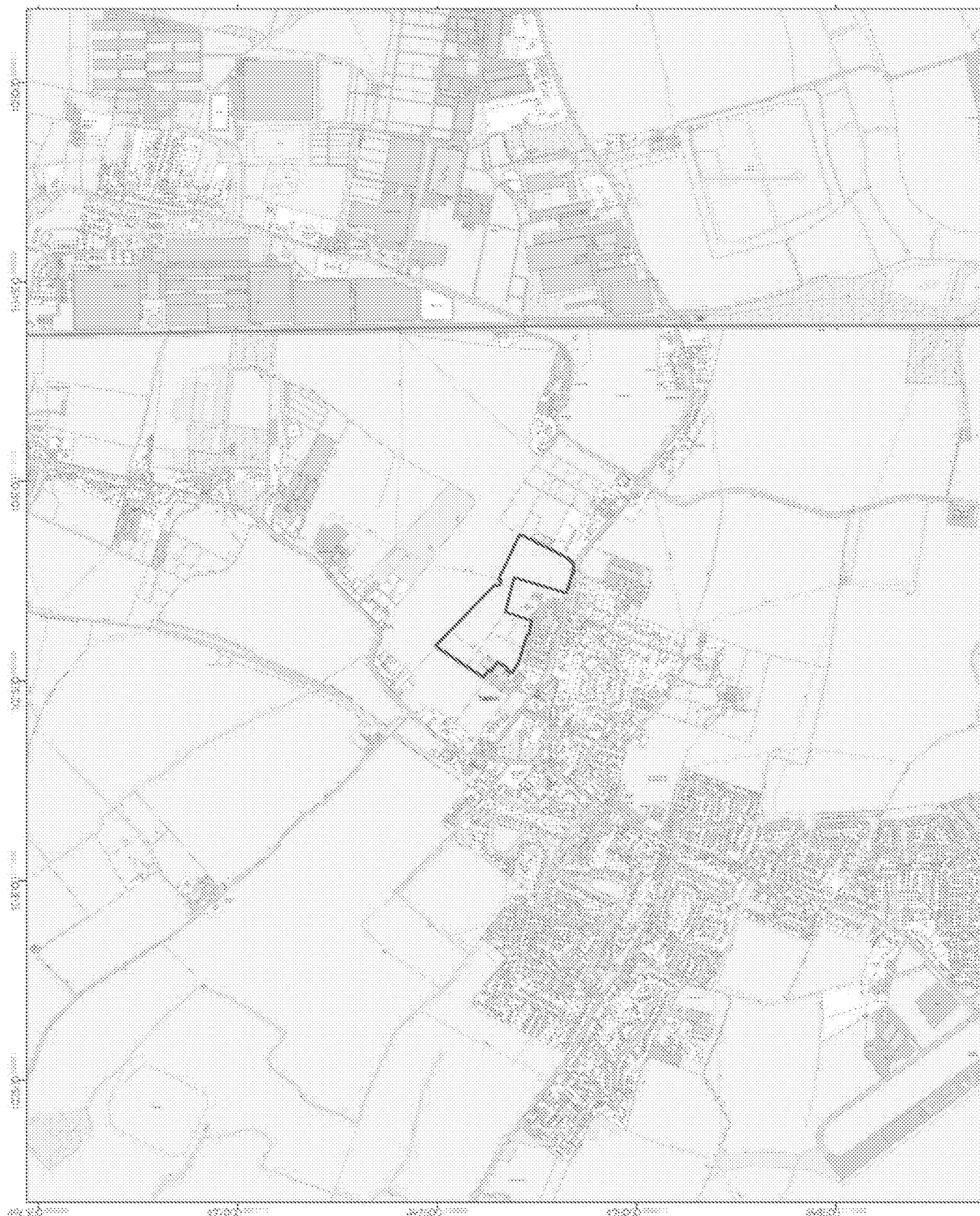
1.3 Survey Area

- 1.3.1 The survey area is located to the west of North End Road and lies to the north west of Yapton Village Centre in the Arun district of West Sussex. The site comprises c.4.6ha of undeveloped land, currently dominated by improved grassland, with hedgerows, trees, tall ruderal vegetation, scrub, two agricultural buildings and hard-standing.
- 1.3.2 The site is bounded to the east by Yapton Church of England Primary School, residential property, farm buildings and North End Road, and to the north, west and south by agricultural land. The extent of the survey area is outlined in red on Figure 1.1.

- 1.3.3 The wider landscape is dominated by open pasture and farmland with connecting hedgerows, and woodland to the north east and north west. The settlement of Yapton is located to the west and south west. No ponds lie within 250m of the survey area.

1.4 Proposed Construction Activities

- 1.4.1 Outline planning consent has been obtained for a residential development (application references Y/44/17/OUT and Y/88/18/OUT). The proposals would include demolition of existing buildings, and construction of c.108 dwellings, together with parking, access, landscaping, and associated facilities. A detailed application is now being made for site access as shown on the general arrangement plan at Figure 1.2. Reserved matters applications for the remainder of the site are expected thereafter.



Land at North End Road, Yapton, West Sussex

 Survey area

0 400 800 N
Meters

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Ordnance Survey 0100031673

Scale: 1:10,000 Created by: AD
Date: Apr 2019 Reviewed by: NP
Drawing number:
UEGV/ECO-Site_190462

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Figure 1.1: Site location plan



2 Survey Methodology

2.1 Desk Study

2.1.1 A desk-based study was undertaken to examine published information and biological records from within the search area (site centroid plus 2km for all data). The desk study established the presence of designated sites of nature conservation interest, or records of protected/notable habitats/species within the site and its surrounding area. This information was collected from the following sources:

- ✦ The 'MAGIC' (Multi-agency Geographic Information for the Countryside) website: www.magic.gov.uk and
- ✦ Sussex Biodiversity Records Centre (SxBRC).

2.2 Preliminary Ecological Appraisal

2.2.1 The Preliminary Ecological Appraisal (compliant to British Standard BS42020:2013) is based on a survey of the site undertaken on 19 March 2019 by an experienced ecologist. Weather conditions were cold (c.11°C), with a light south easterly breeze (Beaufort Scale 1), overcast and dry.

2.2.2 Within the survey area every parcel of land was classified, recorded and mapped using standard colour codes, in accordance with a list of ninety habitat types specified within the methodology for Phase 1 habitat survey (Joint Nature Conservation Council, 2010). This allows rapid visual assessment of the extent and distribution of different habitat types. Target notes were used to provide supplementary information on features which are particularly interesting or significant to specific construction proposals, or too small to map, or to provide additional details, for example relating to species composition and structure.

2.2.3 This basic methodology was extended to provide more detail in relation to habitats with potential to support rare or protected fauna, as described by the Chartered Institute of Ecology and Environmental Management's *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017b). The assessment of habitat suitability for protected, rare or priority species is based on current good practice guidance such as that presented in the *Herpetofauna Workers' Manual* (Gent and Gibson, 2003) and *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Collin (ed.), 2016). Where a species/group is not specifically evaluated, this indicates that no habitat of potential value for the species was identified during the survey.

Scope of the survey

2.2.4 The buffer zone for the desk study was set at 2km from the centre of the site – a distance within which any notable ecological features likely to be affected by the proposed scheme would be identified.

- 2.2.5 All habitats within the survey area as indicated on Figure 1.1 were identified in order to identify any ecological constraints that would be likely to apply to the scheme from within this zone. Smaller areas of potential habitat or of floristic interest were target noted. Adjacent habitats were also surveyed where appropriate in order to identify constraints falling outside of the proposed development site and to place the survey area in its ecological context.

Evaluation criteria

- 2.2.6 Important ecological features were evaluated where possible in relation to a geographical frame of reference, i.e. international/European value being most important, then national, regional, metropolitan/county/district/borough, and lastly local (based on CIEEM, 2018).
- 2.2.7 Value judgements are based on various characteristics that contribute to the importance of ecological features. These include site designations (such as Sites of Special Scientific Interest (SSSI), or for undesignated features, the extent, naturalness, conservation status (locally, nationally or internationally important), and quality of the ecological resource. Quality can refer to habitats (for instance if they are particularly diverse, are a good example of a specific habitat type, or provide for the requirements of important species or assemblages), other features (such as connectivity provided by wildlife corridors or mosaics of habitats) or the richness and abundance of species populations or assemblages.

2.3 Limitations

- 2.3.1 Biological records gathered during the desk study can provide an indication of the likely presence of a species on or adjacent to a site, however, the absence of records for protected species does not equate to evidence of their absence from the locality. Data search accuracy is variable and records are often georeferenced to the nearest 1km grid square.
- 2.3.2 Time of year when the survey was carried out and other variations will influence the results of the survey. Botanical species vary considerably in their flowering, seeding and fruiting periods, and surveys outside of these periods can confound accurate species identification. Where this is the case plants have been identified to lowest possible taxonomic group, normally genus. The possibility nonetheless exists for other species to be present on the site which were not recorded or otherwise indicated by the survey. Ornamental species are not included in botanical listings.
- 2.3.1 The survey reported herein was carried out in early spring, before flowering for many botanical species. However, diagnostic vegetative characteristics are often still discernible and the timing of the survey is not considered to be a significant limitation to meeting the report objectives.
- 2.3.1 There were no difficulties in gaining access to survey the site's habitats and assess protected species suitability. However, the adjacent residential property to the north, and the school to the east could not be surveyed for signs of species such as badger due to access restrictions.
- 2.3.2 This report aims to provide general advice on the ecological constraints associated with development proposals for the site and includes recommendations for further survey where appropriate. Where impacts are likely or further ecological surveys are recommended, a more

detailed Ecological Impact Assessment (EclA) of the effects of the proposed development should be carried out based on the results of recommended surveys. The EclA will include detailed advice on ecological avoidance, mitigation, enhancement and/or compensation measures. This is in line with the latest guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017a, 2017b, 2018).

- 2.3.3 See Appendix III for general Legal and Technical Limitations which apply to this document.

2.4 Personnel

- 2.4.1 The site survey was carried out by Becci Bond BSc(Hons) MCIEEM, a Senior Ecologist with over eight years' experience in ecological field survey for a wide range of sites and development projects. Becci holds Natural England Class Licences to survey for great crested newt (WML-CL08), dormouse (WML-CL10a) and bats (WML-CL17). The report was extensively reviewed by Nick Pincombe BA(Hons) MSc CEnv MIEMA MCIEEM, Director of Urban Edge Environmental Consulting, who has over twelve years' experience in leading survey and impact assessment teams for a wide range of ecology and environmental planning projects. Nick holds Natural England Class Licences to survey for bats (WML-CL18) and great crested newt (WML-CL08).

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3 Results

3.1 Desk Study

Statutory and non-statutory site designations

- 3.1.1 SxBRC and a search of the MAGIC database returned no records of designated wildlife sites within the 2km desk study search area.

Priority habitats

- 3.1.2 Priority habitats include those listed on local Biodiversity Action Plans and habitats of principal importance listed under section 41 of the Natural Environment and Rural Communities Act 2006. SxBRC returned the following data on priority and other habitats within the desk study search area: Chalk stream, Lowland fen, Open water, Coastal & floodplain grazing marsh, Deciduous woodland, Traditional orchard, Wood-pasture & parkland, Ancient woodland, and Ancient & veteran trees. None of these are shown as present within the survey area; see Figure 3.1.

Records of protected, rare and notable species

- 3.1.3 Biological records were obtained from SxBRC for the desk study search area and are summarised in Table 3.1.

Table 3.1: Records of protected, rare & notable species within the desk study search area

Group	Species	Protection
Amphibians	Great Crested Newt <i>Triturus cristatus</i>	Habs.Dir.Ax.2&4, CHS Sch.2, WCA Sch.5 full, NERC s41
	Common Toad <i>Bufo bufo</i>	WCA Sch.5 partial, NERC s41
	Palmate Newt <i>Lissotriton helveticus</i> , Smooth Newt <i>Lissotriton vulgaris</i> , Common Frog <i>Rana temporaria</i>	WCA Sch.5 partial
Birds (note: species may appear more than once)	Kingfisher <i>Alcedo atthis</i> , Great Bittern <i>Botaurus stellaris</i> , Little Egret <i>Egretta garzetta</i> , Woodlark <i>Lullula arborea</i> , Red Kite <i>Milvus milvus</i>	Birds Dir.Ax.1
	Kingfisher <i>Alcedo atthis</i> , Great Bittern <i>Botaurus stellaris</i> , Cetti's Warbler <i>Cettia cetti</i> , Little Ringed Plover <i>Charadrius dubius</i> , Quail <i>Coturnix coturnix</i> , Black-Winged Stilt <i>Himantopus himantopus</i> , Woodlark <i>Lullula arborea</i> , Hobby <i>Falco subbuteo</i> , Red Kite <i>Milvus milvus</i> , Firecrest <i>Regulus ignicapillus</i> , Barn Owl <i>Tyto alba</i>	WCA Sch.1
	Skylark <i>Alauda arvensis</i> , Great Bittern <i>Botaurus stellaris</i> , Cuckoo <i>Cuculus canorus</i> , Hawfinch <i>Coccothraustes coccothraustes</i>	NERC s41

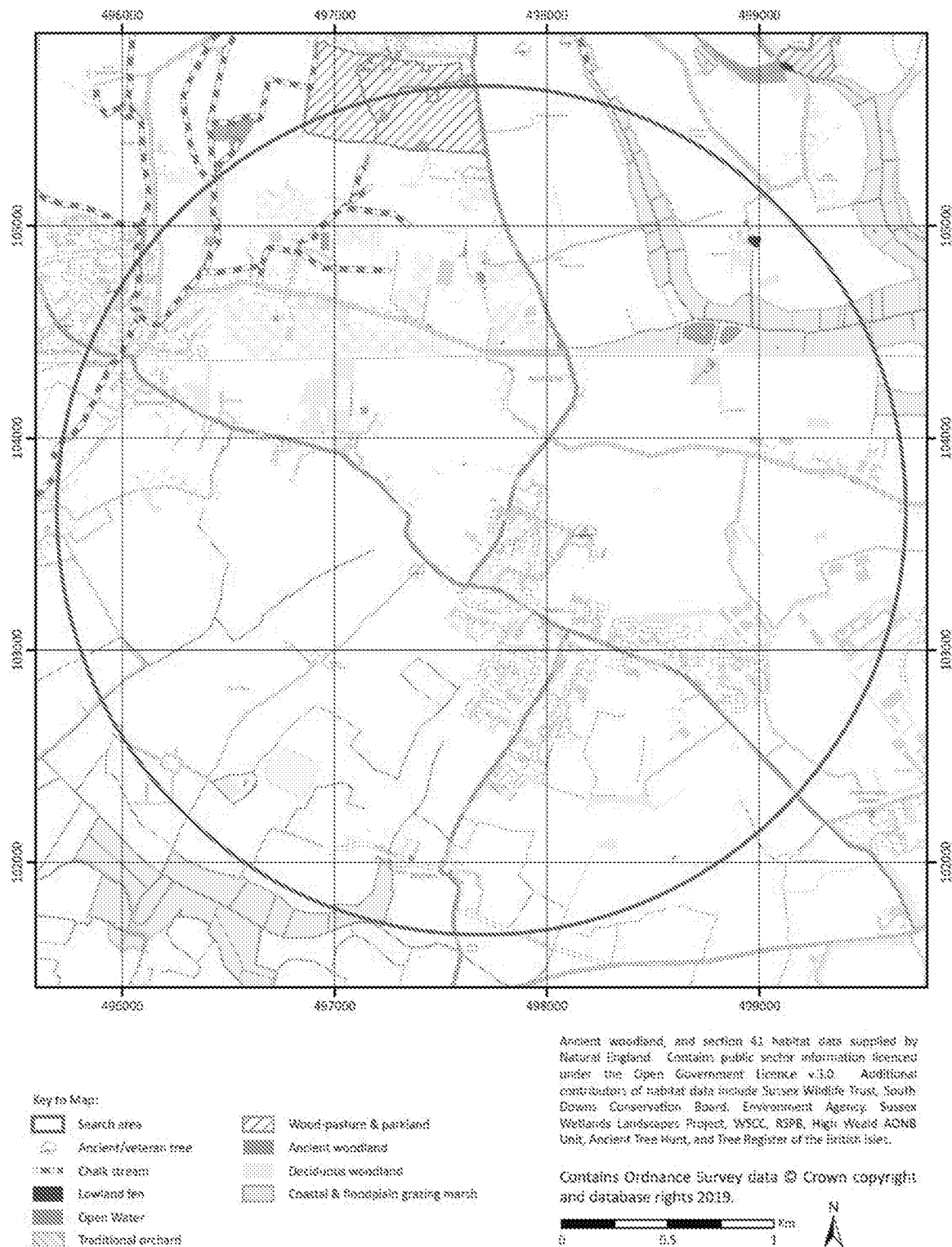
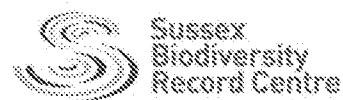
Group	Species	Protection
	Yellowhammer <i>Emberiza citrinella</i> , Reed Bunting <i>Emberiza schoeniclus</i> , Corn Bunting <i>Emberiza calandra</i> , Lesser Spotted Woodpecker <i>Dendrocopos</i> , Dunnock <i>Prunella modularis</i> , Herring Gull <i>Larus argentatus</i> , Linnet <i>Linaria cannabina</i> , Grasshopper Warbler <i>Locustella naevia</i> , Woodlark <i>Lullula arborea</i> , Yellow Wagtail <i>Motacilla</i> , Curlew <i>Numenius arquata</i> , House Sparrow <i>Passer domesticus</i> , Grey Partridge <i>Perdix perdix</i> , Marsh Tit <i>Poecile palustris</i> , Bullfinch <i>Pyrrhula pyrrhula</i> , European Turtle Dove <i>Streptopelia turtur</i> , Starling <i>Sturnus vulgaris</i> , Song Thrush <i>Turdus philomelos</i> , Lapwing <i>Vanellus vanellus</i>	
	Skylark <i>Alauda arvensis</i> , Pochard <i>Aythya farina</i> , Cuckoo <i>Cuculus canorus</i> , Ringed plover <i>Charadrius hiaticula</i> , Hawfinch <i>Coccothraustes coccothraustes</i> , Lesser Spotted Woodpecker <i>Dendrocopos minor</i> , Corn Bunting <i>Emberiza calandra</i> , Yellowhammer <i>Emberiza citrinella</i> , Herring Gull <i>Larus argentatus</i> , Linnet <i>Linaria cannabina</i> , Grasshopper Warbler <i>Locustella naevia</i> , Nightingale <i>Luscinia megarhynchos</i> , Grey Wagtail <i>Motacilla cinerea</i> , Yellow Wagtail <i>Motacilla flava</i> , Curlew <i>Numenius arquata</i> , House Sparrow <i>Passer domesticus</i> , Grey Partridge <i>Perdix perdix</i> , Marsh Tit <i>Poecile palustris</i> , Whinchat <i>Saxicola rubetra</i> , Woodcock <i>Scolopax rusticola</i> , Turtle Dove <i>Streptopelia turtur</i> , Starling <i>Sturnus vulgaris</i> , Mistle Thrush <i>Turdus viscivorus</i> , Song Thrush <i>Turdus philomelos</i> , Lapwing <i>Vanellus vanellus</i>	RL
	Kingfisher <i>Alcedo atthis</i> , Teal <i>Anas crecca</i> , Mallard <i>Anas platyrhynchos</i> , Gadwall <i>Anas strepera</i> , Swift <i>Apus apus</i> , Short-eared Owl <i>Asio flammeus</i> , Great Bittern <i>Botaurus stellaris</i> , Stock Dove <i>Columba oenas</i> , Quail <i>Coturnix coturnix</i> , Mute Swan <i>Cygnus olor</i> , House Martin <i>Delichon urbicum</i> , Reed Bunting <i>Emberiza schoeniclus</i> , Kestrel <i>Falco tinnunculus</i> , Snipe <i>Gallinago gallinago</i> , Oystercatcher <i>Haematopus ostralegus</i> , Redstart <i>Phoenicurus phoenicurus</i> , Dunnock <i>Prunella modularis</i> , Willow Warbler <i>Phylloscopus trochilus</i> , Bullfinch <i>Pyrrhula pyrrhula</i> , Tawny Owl <i>Strix aluco</i> , Shelduck <i>Tadorna tadorna</i> , Redshank <i>Tringa totanus</i>	AL
Fish	European Eel <i>Anguilla Anguilla</i>	NERC s41
Invertebrates	Stag Beetle <i>Lucanus cervus</i> ,	Habs.Dir.Ax.2, WCA Sch.5 partial, NERC s41
	Knot Grass <i>Acronitica rumicis</i> , Beaded Chestnut <i>Agrochola lychnidis</i> , Green-brindled Crescent <i>Allophytes oxyacanthae</i> , Large Nutmeg <i>Apamea anceps</i> , Small Heath <i>Coenonympha pamphilus</i> , Galium Carpet <i>Epirrhoe galiata</i> , Meadow Ant <i>Formica pratensis</i> , Rustic <i>Hoplodrina blanda</i> , Rosy Rustic <i>Hydraecia micacea</i> , Rosy Minor <i>Litoligia literosa</i> , Dot Moth <i>Melanchra persicariae</i> , Large Wainscot <i>Rhizedra lutosa</i> , Buff Ermine <i>Spilosoma lutea</i> , Blood-Vein <i>Timandra comae</i> , Cinnabar <i>Tyria jacobaeae</i> , Oak Hook-tip <i>Watsonalla binaria</i>	NERC s41
Mammals (terrestrial)	Western Barbastelle <i>Barbastella barbastellus</i>	Habs.Dir.Ax.2&4, CHS Sch.2, WCA Sch.5 full, NERC s41

Group	Species	Protection
	Noctule Bat <i>Nyctalus noctula</i> , Soprano Pipistrelle <i>Pipistrellus pygmaeus</i> , Brown Long-eared Bat <i>Plecotus auritus</i>	Habs.Dir.Ax.4, CHS Sch.2, WCA Sch.5 full, NERC s41
	Serotine Bat <i>Eptesicus serotinus</i> , Daubenton's Bat <i>Myotis daubentonii</i> , Whiskered <i>Myotis mystacinus</i> , Natterer's Bat <i>Myotis nattereri</i> , Leisler's Bat <i>Nyctalus leisleri</i> , Nathusius' <i>Pipistrellus nathusii</i> Common Pipistrelle <i>Pipistrellus pipistrellus</i>	Habs.Dir.Ax.4, CHS Sch.2, WCA Sch.5 full
	European Water Vole <i>Arvicola amphibius</i>	WCA Sch.5 full, NERC s41
	Badger <i>Meles meles</i>	WCA Sch.6, PBA
	West European Hedgehog <i>Erinaceus europaeus</i> , Brown Hare <i>Lepus europaeus</i> , Harvest Mouse <i>Micromys minutus</i>	NERC s41
Plants	Pennyroyal <i>Mentha pulegium</i>	WCA Sch.8, NERC s41
	Bluebell <i>Hyacinthoides non-scripta</i>	WCA Sch.8
	Cornflower <i>Centaurea cyanus</i> , Shepherd's-needle <i>Scandix pecten-veneris</i> , Spreading Hedge-parsley <i>Torilis arvensis</i>	NERC s41
Reptiles (terrestrial)	Slow Worm <i>Anguis fragilis</i> , Grass Snake <i>Natrix natrix</i> , Adder <i>Vipera berus</i> , Common Lizard <i>Zootoca vivipara</i>	WCA Sch.5 part, NERC s41

Birds Dir.Ax.1	Wild Birds Directive 2009/147/EC Annex 1
Habs.Dir.Ax.2/4/5	Habitats Directive 92/43/EEC Annex 2, 4 or 5
CHS Sch.X	Conservation of Habitats & Species Regulations 2017 Schedules 2 (EPS animals) or 5 (EPS plants)
WCA s1/Sch.X	Wildlife and Countryside Act 1981 Section 1 / Schedules 1, 5 (fully or partially protected), 6 or 8
DA 1991	Deer Act 1991
NERC s41	Natural Environment & Rural Communities Act 2006 Section 41 Species of Principal Importance
RL/AL	Red/Amber Listed (IUCN or Birds of Conservation Concern 4 (Eaton et al., 2015))
NR	Nationally Rare NS Nationally Scarce

Map 4: Section 41 habitats and other**Land at North End Road, Yapton + 2km radius**

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**Figure 3.1: Priority habitats within the desk study search zone**

3.2 Phase 1 Habitats

3.2.1 The following Phase 1 habitats were identified within or adjacent to the survey area and are shown on the Phase 1 habitats map at Appendix I. The habitats are described below broadly in the order of their extent.

- ❖ Improved grassland;
- ❖ Scattered trees;
- ❖ Buildings and hardstanding;
- ❖ Dense scrub;
- ❖ Tall ruderal; and
- ❖ Hedgerows.

Improved grassland

3.2.2 The majority of the survey area is dominated by improved grassland that is intensively grazed by sheep and horses resulting in a very short ($\leq 5\text{cm}$), uniform sward in the horse grazed field (northern field) and a short ($\leq 10\text{cm}$), slightly more tussocky sward in the sheep grazed field (fields south and west of hedgerow H3). This habitat is recorded throughout the survey area to the borders in each cardinal direction. Species that could be identified in the sward included Perennial rye grass *Lolium perenne*, creeping buttercup *Ranunculus repens*, clover *Trifolium spp.*, hoary plantain *Plantago media*, cocksfoot *Dactylis glomerata*, dandelion *Taraxacum officinale*, red dead-nettle *Lamium purpureum* and ribwort plantain *Plantago lanceolata*.

3.2.3 The remains of a demolished outbuilding (TN1) and a stacked pile of logs c.3mx1mx0.6m (TN2) are present within the northern parcel of land in the east. A brash pile (TN3) interspersed with rubbish, including plastic, was recorded in the south of the site, adjacent to the end of a bank and south-west of building B1.



Improved grassland within the northern horse grazed field.



Improved grassland within the southern sheep grazed field, looking south.



Improved grassland within the southern sheep grazed field, looking north.



TN1: Demolished outbuilding remains in northern parcel of land.



TN2: Stacked logs in northern parcel of land.



TN3: Brash pile interspersed with rubbish, in south of site south-west of building B1.

Scattered trees

- 3.2.4 Young and semi-mature scattered trees were recorded along the north western boundary of the site and within the improved grassland field in the south. Species included dominant hawthorn *Crataegus monogyna* with occasional elder *Sambucus nigra*, beech *Fagus sylvatica*, ash *Fraxinus excelsior* and common lime *Tilia x europaea*, and rare horse chestnut *Aesculus hippocastanum* and oak *Quercus sp.*
- 3.2.5 A few of the trees within the southern improved grassland field contained wooden fences around their bases to guard them from livestock damage, daffodils *Narcissus sp.*, and laurel *Laurus nobilis* were growing at the bases of several of these trees, within the guards.
- 3.2.6 None of the trees were at an age or in a condition to display potential roost features (PRFs) for bats.



Group of scattered trees on north west boundary



Semi-mature ash in southern grassland field



Young horse chestnuts in southern grassland field



Young to semi-mature ash, hawthorn and oak along north west boundary, in southern field

Buildings and hardstanding

3.2.7 There were two buildings within the site, building B1 was a single storey large agricultural building constructed from breezeblocks with steel supporting beams, corrugated asbestos and timber cladding, and a pitched corrugated metal roof with plastic skylights. The building was in fairly good condition and is open at the south-east and north-west aspects. The building is currently used for storage. Building B2, a timber built shelter for livestock, was recorded north west of building B1. This shelter was completely open on the south east aspect. No evidence of bats was recorded in either building, and B1 and B2 are classed as of negligible suitability for roosting bats.

3.2.8 B3 was a small outbuilding located offsite, adjacent to the south east boundary of the site. The building was small and single storey with brick walls and a pitched clay tiled roof. Gaps were present at the eaves and under clay tiles. It could be seen from the external inspection that felt sarking was present beneath the tiles, which could create a roosting space for crevice dwelling bats. The building is classed as low to moderate potential for roosting bats based on an external assessment only.

- 3.2.9 The hardstanding on site was recorded to the north, east and south of building B1 in the south of the site and was comprised predominately of concrete. Species recorded within the hardstanding areas included cocksfoot, ribwort plantain and mosses *Bryophyta*. A pile of wood (TN4) measuring c.4mx1.5mx0.8m was recorded within the hardstanding adjacent to the north-east aspect of building B1. A log pile (TN5) measuring c.2mx2mx1m and a digger bucket was recorded within the hardstanding south-west of building B1.



Building B1: north-west aspect.



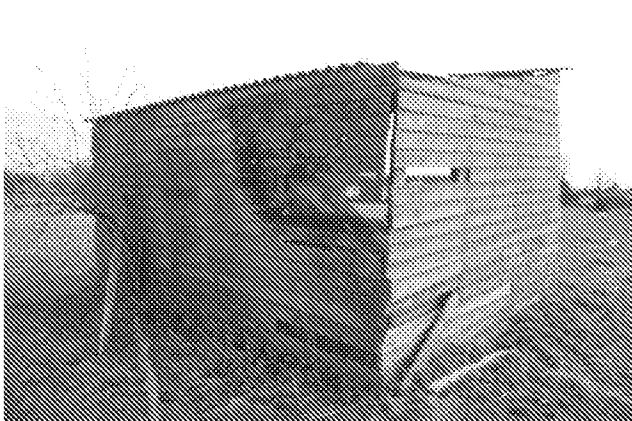
Building B1: north-east aspect.



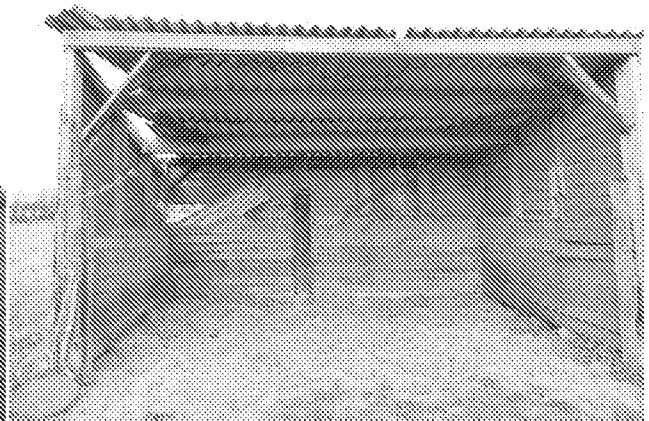
Building B1: south-east aspect.



Building B1: Internal view. No PRF's.



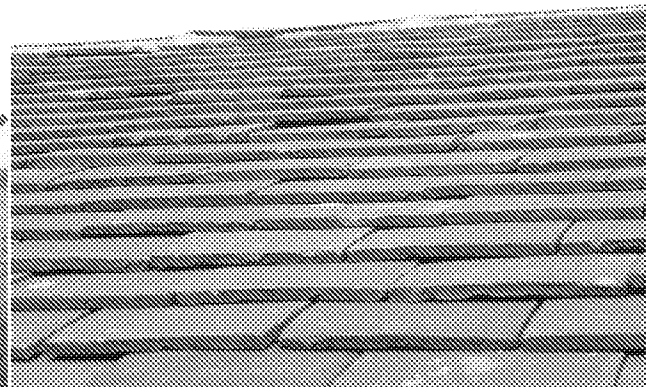
Building B2: Western aspect.



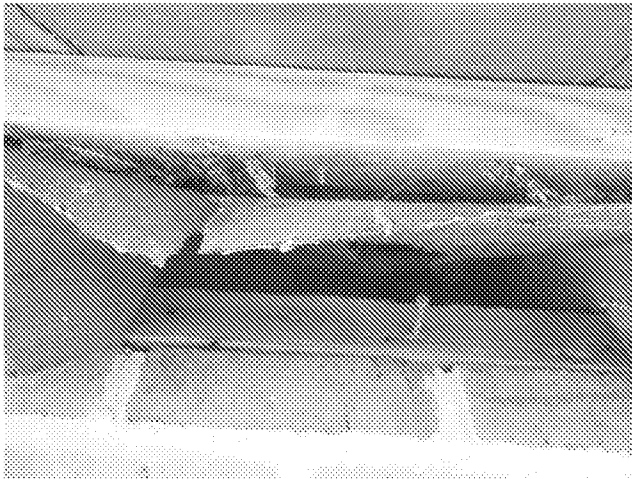
Building B2: Internal view, south-east aspect.



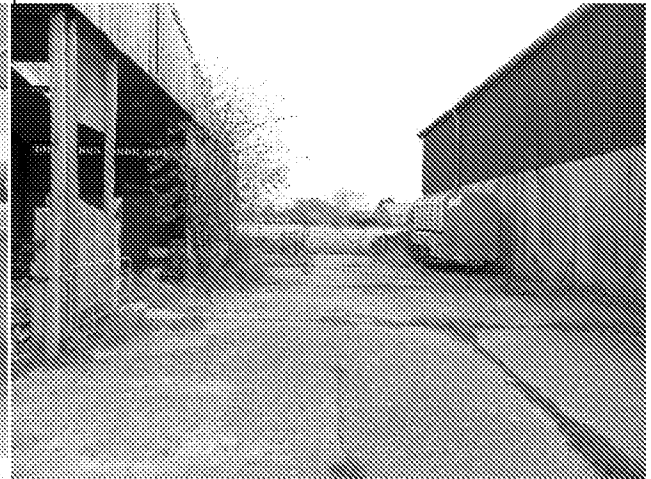
Building B3: External view, south-east aspect.



Building B3: External view, lifted tiles allowing possible bat access.



Building B3: External view, gaps at eaves and felt sarking lining roof. Low to moderate roosting potential for bats.



Hardstanding to east of building B1.



TN4: Pile of wood adjacent to north-east aspect of building B1 in south of site.



TN5: Pile of logs and digger bucket within hardstanding in the south of the site.

Tall ruderal

3.2.10 Tall ruderal vegetation was present in a few areas within the south of the site; south-west of building B1, adjacent to the pile of wood at TN2, and in the south-western corner of the site.

Species included nettle *Urtica dioica*, cleavers *Galium aparine*, rosebay willowherb *Chamerion angustifolium*, dock *Rumex obtusifolius* daffodils, hogweed and thistle. A bank (TN6) running north-east to south-west measuring 6mx3mx1.5 was present south-west of building B1 and contained tall ruderal species interspersed with bramble *Rubus fruticosus*. Numerous rabbit holes were recorded within this bank.



Tall ruderal in south of site south-west of building B1.



Tall ruderal adjacent to pile of wood.



TN6: Bank with tall ruderal and scrub in south of site.



TN6: Numerous rabbit holes within bank in south of site.

Dense scrub

- 3.2.11 A few small patches of dense bramble scrub were recorded within the south of the site with a larger area of scrub in the north of the site running along the eastern boundary. Bramble was also recorded running along the northern boundary of the site. The bramble on site provides opportunities for nesting birds, and potentially shelter and dispersal habitats for amphibians, small mammals and reptiles.



Bramble scrub north-west of building B1.



Bramble scrub in the north, along portion of eastern site boundary.

Hedgerows

- 3.2.12 Intact species-poor hedgerows form parts of the northern and eastern boundaries of the site. The northern boundary hedgerow (H1) was managed and measured c.2m in height, 1m in width and 25m in length. The hedgerow was formed predominantly of Lawson's cypress *Chamaecyparis lawsoniana* with occasional ivy *Hedera helix*.
- 3.2.13 Hedgerow H2 along the southern boundary of the northern part of the site was managed and measured c.2m in height, 1.5m in width and 135m in length. The predominant species was field maple *Acer campestre* with occasional elder *Sambucus nigra*, ivy, and cleavers and rarely oak.
- 3.2.14 The hedgerow along part of the eastern site boundary, adjacent to the school grounds (H3) was managed and measured c.2m in height, 1m in width and 85m in length. The hedgerow comprised elder, lime and privet *Ligustrum vulgare*.
- 3.2.15 Hedgerow H4 along the north-eastern boundary with North End Road was less frequently managed at the time of survey and measured c.3m in height, 2m in width and 47m in length. The predominant species was hawthorn with elder and bramble. It is understood that this hedgerow was subsequently felled by the previous landowner in December 2019.



H1: Hedgerow along part of northern boundary of site.



H2: Hedgerow along southern boundary of northern parcel of land.



H3: Hedgerow along part of eastern boundary of site, adjacent to school grounds.



H4: Hedgerow along the north-east boundary with North End Road

4 Evaluation

4.1 Introduction

- 4.1.1 This section evaluates the survey area in terms of the habitats and species present or potentially present on site or its immediate vicinity, in the context of relevant legislation and planning policy. See Appendix II for a review of the legislation and planning context.

4.2 Designated Sites

- 4.2.1 There are no designated wildlife sites within the 2km desk study search area and therefore the development proposals will not have an effect on any designated sites.

4.3 Habitats

- 4.3.1 Priority habitats present within the survey area or at its boundaries include:
- ✧ Hedgerows.
- 4.3.2 All the hedgerows on site (H1-H4) were classified as species-poor. Priority hedgerow habitats are defined “as any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide..., consisting predominantly (i.e. 80% cover or more) of at least one woody UK native species” (any bank, wall, ditch or tree within 2m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2m of the centre of the hedgerow) (Maddock, 2008). The survey area’s hedgerows broadly fall into this classification.
- 4.3.3 Approximately 46.5m of species-poor hedgerow H4 would be removed to facilitate construction of a new site access to the northern part of the site from North End Road, however, it is currently anticipated the remaining hedgerows will be retained and protected during construction. This hedgerow loss would be offset by native species-rich hedgerow creation and enhancement as part of the landscaping strategy for the development as a whole.

4.4 Species

Amphibians (excluding great crested newt)

- 4.4.1 SxBRC returned 37 records of the four common and widespread amphibian species, common frog *Rana temporaria*, common toad *Bufo bufo*, smooth newt *Lissotriton vulgaris* and palmate newt *Lissotriton helveticus* from within the desk-study search zone, during a date range of 1992 to 2012.

- 4.4.2 Dominant habitats within the survey area such as the grazed improved grassland are sub-optimal for common and widespread amphibian species. The tall ruderal, scattered scrub, and hedgerows provide potentially suitable terrestrial habitats for common amphibian species; however these habitats are limited in extent with no nearby ponds. No further surveys for common amphibians are required.

Great crested newt

- 4.4.3 SxBRC returned seven records of great crested newt (GCN) *Triturus cristatus* from within the desk-study search zone, during a date range of 2002 to 2017.
- 4.4.4 The survey area contains predominantly sub-optimal terrestrial habitat for GCN formed mainly of intensively grazed improved grassland fields with a short sward height and little structural diversity. Grasslands of this nature are occasionally used by foraging or dispersing GCN but contain few shelter habitats and are unlikely to support high numbers. However, there are small areas of suitable terrestrial habitats along the boundaries of the site including tall ruderals and scrub, which provide potential terrestrial and hibernation habitat for GCN. The hedgerows provide potentially suitable dispersal and hibernation habitat.
- 4.4.5 There are no ponds within the survey area, and analysis of Ordnance Survey maps and aerial photography indicated that no ponds are present within 250m of the site. Great crested newt is not considered to present a constraint to the development proposals and no further surveys for this species are required.

Birds (nesting)

- 4.4.6 SxBRC returned records of 807 notable bird species from within the desk-study search zone during a date range of 1980 to 2018.
- 4.4.7 The survey area's hedgerows, scattered trees and scrub are suitable for nesting birds such as wren *Troglodytes troglodytes*, dunnock *Prunella modularis* (an Amber-listed bird of conservation concern (BoCC4); Eaton *et al.*, 2015), robin *Erithacus rubecula* and chaffinch *Fringilla coelebs*. Precautionary measures for nesting birds are recommended at section 5.3.

Invertebrates

- 4.4.8 SxBRC returned records of 53 protected/notable invertebrates from within the desk-study search zone, during a date range of 1985 to 2018.
- 4.4.9 The intensively managed grazed grassland habitats which dominate the survey area are unlikely to support a diverse or abundant invertebrate fauna in general. Invertebrates are not considered to present a constraint to the development proposals and no further surveys for this group are required.

Mammals (terrestrial)

Badger

- 4.4.10 SxBRC do not include badger records in their reports as local badger groups have requested they remain confidential. A search for badger setts and signs of their presence was undertaken within a 30m radius of the site boundary, but did not include the adjacent private property to the north or the school grounds to the east. Sett building habitats were restricted to the small pockets of scrub and hedgerows in the north east the site. Following an extensive search of accessible areas no signs of badger activity were observed within or around the survey area, such as badger paths, footprints, latrines, badger hairs caught at fence lines, or scratching posts. This was however based on a Phase 1 walkover survey rather than a comprehensive search for badger field signs. Badger is not considered to present a potential constraint to the development proposals, however general ecological protection measures for badger and other mammals are recommended at section 5.4.

Bats

- 4.4.11 SxBRC returned 39 records of eleven species of bat from within 2km of the survey area, during a date range of 1984 to 2018, including Western barbastelle *Barbastella barbastellus*, serotine *Eptesicus serotinus*, Whiskered Bat *Myotis mystacinus*, Natterer's Bat *M. nattereri*, Daubenton's *M. daubentonii*, noctule *Nyctalus noctula*, Leisler's *N. leisleri*, Nathusius' pipistrelle *Pipistrellus nathusii*, common pipistrelle *P. pipistrellus*, soprano pipistrelle *P. pygmaeus*, and brown long-eared *Plecotus auritus* bats.
- 4.4.12 There were two buildings within the survey area, B1 and B2. No evidence of bats was recorded in either building, and due to their material, form and condition B1 and B2 are classified as of negligible suitability for roosting bats.
- 4.4.13 There is a small outbuilding located offsite (B3), adjacent to the south east boundary of the survey area. The building is classed as low to moderate potential for roosting bats based on an external assessment only due to the likely presence of crevice roosting opportunities between slipped tiles and roof liner. It is currently understood that the south-eastern part of the survey area will be kept as open space following development. Consequently it is unlikely that any bats roosting within B3 would be affected either directly (through roost loss/damage) or indirectly (via increase artificial lighting) by the proposals for the site. Further survey for roosting bats, as recommended in section 5.2, would only be necessary should this situation change.
- 4.4.14 None of the trees within the survey area displayed potential roost features during a ground-level assessment, and PRFs are considered unlikely to be present higher up due to the relatively young age and good condition of the trees. The trees on site do not present a constraint in relation to roosting bats.
- 4.4.15 The improved grassland habitat which dominates the survey area is unlikely to host an abundant invertebrate fauna and is considered to be of low suitability as foraging habitat for bats. However, the site is grazed by livestock which may encourage invertebrates to the site. The boundary hedgerows to the north and east may serve as navigation routes or foraging features

for bats but are also of low suitability due to their mainly tightly managed form and condition. However, the majority of the grassland resource within the survey area would be lost under the proposal and it is likely that the boundary hedgerows will experience an increase in artificial lighting following development, which may render them less suitable for foraging/commuting in future. Further surveys for bat activity are recommended at section 5.2.

Hazel dormouse

- 4.4.16 SxBRC returned no records of hazel dormouse *Muscardinus avellanarius*. The hedgerows present at the site boundaries to the north and east provide potential habitat for dormouse, and approximately 46.5m of hedgerow H4 would be removed to facilitate construction of a new site access. However, the hedgerows were largely sub-optimal for dormouse due to limited connectivity to areas of mature woodland or hedgerow in the wider landscape. They are also frequently flailed, species-poor and unlikely to provide sufficient year-round food availability. Dormouse is not considered to present a constraint to the development proposals and no further surveys for this species are required.

Water vole and otter

- 4.4.17 SxBRC returned eleven records of European water vole *Arvicola amphibius* from within the desk study search area, during a date range of 1998 to 2016. SxBRC does not supply records of otter *Lutra lutra*.
- 4.4.18 There are no riparian habitats running through or adjacent to the site, making it unlikely that either species would be present. Neither species is considered to present a constraint to development proposals and further surveys are not required.

Plants, native

- 4.4.19 SxBRC returned records of 115 protected or notable botanical species from within the desk-study search zone during a date range of 1986 to 2018.
- 4.4.20 No rare or protected species of flora were recorded within the survey area and, based on the habitat types present (improved grassland, tall ruderal and scrub) and past and current management regimes, it is considered unlikely that these are present. Botanical species are not considered to present a constraint to the development proposals and no further surveys for this group are required.

Plants – invasive non-native species and injurious weeds

- 4.4.21 No invasive plant species (i.e. species listed on Schedule 9 of the Wildlife and Countryside Act) were located during the survey. No significant stands of injurious weed species were noted (ragwort *Senecio jacobea*, spear thistle *Cirsium vulgare*, creeping thistle *Cirsium arvense*, curled dock *Rumex crispus*, and broad-leaved dock *Rumex obtusifolius*).

Reptiles (terrestrial)

- 4.4.22 SxBRC returned 104 records of common reptile species from within 2km of the survey area, during a date range of 1994 to 2018. All four common reptile species have been recorded locally; slow worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix natrix* and adder *Vipera berus*.
- 4.4.23 The survey area contains predominantly sub-optimal habitat for reptiles, formed mainly of intensively grazed improved grassland fields with a short sward height and little structural diversity. Grasslands of this nature are occasionally used for foraging or basking but contain few shelter habitats and are unlikely to support high numbers. In addition the site is relatively isolated by surrounding fields or arable and improved grassland. However, the sheep grazed fields to the south and west of hedgerow H3 have a low tussocky structure and are likely to gain suitability for reptiles as the season progresses unless the intensive grazing pressure continues. In addition there are small areas of suitable habitat along the boundaries of the site including tall ruderals and scrub, which provide potential foraging, shelter and hibernation opportunities for reptiles along with brash/log piles at TN1-TN6. The hedgerows provide potentially suitable dispersal and hibernation habitat but would mostly be retained and protected during construction.
- 4.4.24 Taken together, the habitats within the survey area are potentially capable of providing for the lifecycle requirements of widespread reptiles. Construction works would involve site clearance, creation of access tracks and materials storage compounds, vehicle movements and groundworks, which together could present a risk of killing or injury for reptiles if present within the survey area. The recommendations given at sections 5.2 and 5.3 advise that a reptile survey should be undertaken unless the current grazing regime can be maintained, and if so the areas of better suitability habitat towards the south of the site should be cleared in accordance with a Precautionary Working Method Statement to reduce the risk of killing/injury to reptiles.

Other protected, rare or notable species

- 4.4.25 SxBRC returned 41 records of hedgehog from within the desk study search area, during a date range of 1998 to 2017. The survey area contains habitats suitable for this species, including grassland, hedgerow and scrub. Hedgehog is listed as a species of principal importance under the NERC Act 2006 and is undergoing a significant population decline. Precautionary measures in relation to hedgehog are recommended at section 5.4.

5 Recommendations

5.1 Introduction

- 5.1.1 With regard to the objectives of this Preliminary Ecological Appraisal, recommendations are made below for further botanical and/or protected species survey where necessary. Preliminary recommendations are also made for the protection of important ecological features, and/or to avoid or mitigate ecological impacts, and to enhance the ecology of the site post-construction, with the aim of achieving an overall net gain for biodiversity.
- 5.1.2 It is intended that these preliminary recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. It is further intended that these preliminary recommendations should be revised following the completion of further ecological surveys, and changes may also be necessary if the development proposals are amended.

5.2 Protected Species Surveys

- 5.2.1 The following species / groups (Table 5.1) will require additional surveys prior to refining development designs and formulating a suitable avoidance and mitigation strategy (if required).

Table 5.1: Recommendations for further ecological surveys

#	Recommendations for further ecological survey
R1	Bat activity surveys, undertaken between April and October.
R2	Presence / absence surveys for reptiles, undertaken between April and September within suitable habitats on site unless the current intensive grazing regime is maintained.

Foraging and commuting bats

- 5.2.2 Bat activity surveys are recommended due to the relatively large area of low quality foraging and commuting habitats (open habitats and hedgerow) present in the survey area. Bat activity surveys should follow current guidelines (Collins (ed.), 2016), combining transect surveys with static automated monitoring and supplementary methods as appropriate, and can be carried out between April and October. Transect surveys should begin at sunset and continue for 2–3hrs, or begin 2 hours before dawn and continue at least until sunrise, or continue through the night. The level of survey effort required is dependent on overall habitat suitability, as follows:
- ✦ Low suitability: One survey visit per season (spring/summer/autumn), combined with one static detector location per transect, monitored for five consecutive nights per visit.

- 5.2.3 The bat activity surveys are partially complete and an interim report was issued in January 2020¹.

Reptiles

- 5.2.4 If the currently intensive grazing regime within grassland habitats on site cannot be maintained, it is recommended that further surveys should be carried out by an experienced herpetologist to establish the presence or likely absence of reptile species within the proposed construction site. The survey should involve a minimum of seven visits to the site in suitable weather conditions during the active season (broadly April to September), following current guidelines (Froglife, 1999; Gent & Gibson, 2003). Methods include visual encounter surveys (i.e. targeted transects) and searches of artificial and natural refugia. Grazing has continued since the site survey in March 2019.

5.3 Precautionary Measures

- 5.3.1 The following species/groups (Table 5.2) require specific precautionary measures to be adhered to prior to and during construction to ensure that an offence under the relevant legislation is avoided. These measures may need to be added to or amended following completion of the protected species surveys described above.

Table 5.2: Recommended precautionary measures

#	Recommended precautionary measures
R3	Suitable bird nesting habitat occurs within the site and site boundaries in scrub, trees and hedgerows. Negative impacts on breeding birds should be avoided by undertaking clearance and demolition works which would result in removal of potential nesting habitats outside of the bird breeding season, which runs from 1 March to 31 August. Removal of nesting bird habitats should therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above, as other protected species may still be present outside of the bird breeding season. Any construction works undertaken within the bird breeding season where suitable bird breeding habitat exists will require a site check for nesting birds by a suitably qualified ecologist. This should take place no more than two days prior to works commencing. This is to ensure that no disturbance to active bird nests occurs. If a nest is found it must be cordoned off and works adjacent to the nest must be delayed until such time that the chicks have fledged from the nest. This should be supervised by a suitably qualified ecologist.
R4	Assuming the currently intensive grazing regime within grassland habitats on site can be maintained, vegetation clearance works in the sheep grazed fields to the south and west of hedgerow H3, and areas of scrub, tall ruderals and bank/log/rubble piles at TN1 to TN6 should be undertaken in accordance with a Precautionary Method Working Statement to reduce the risk of killing/injury to reptiles. The Method Statement will specify reasonable avoidance measures including timing restrictions (works to be carried out during the reptile active season, broadly March/April to September/October), progressive reduction of vegetation height to displace any reptiles present, and will be carried out under the supervision of a suitably

¹ Urban Edge Environmental Consulting (2020): *Land at North End Road, Yapton, West Sussex: Bat Activity Survey – Interim Report*.

#	Recommended precautionary measures
	qualified ecologist.

5.4 Ecological Protection Measures

- 5.4.1 The following protection measures (Table 5.3) should be carried out as part of the proposed scheme, alongside any specific measures that are recommended following the protected species surveys described above.

Table 5.3: Recommended ecological protection measures

#	Recommended ecological protection measures
R5	The hedgerow priority habitats are of comparatively greater ecological value. These features are focused on some of the site boundaries and provide habitats suitable for a range of protected species, are of value in their own right and should where possible be retained and protected during construction, and could also provide a focus for ecological enhancement measures (see below).
R6	British Standard BS 5837:2012 and/or National Joint Utilities Group Guidelines (NJUG, 1995) should be followed at all times during construction when working in close proximity to trees or shrubs which are to be retained. According to NJUG Guidelines the root protection zone or precautionary area is 4x the circumference of the trunk (circumference is measured around the trunk at a height of 1.5m above ground level). The distance is measured from the centre of the trunk to the nearest part of any excavation or other work. If a separate tree survey is carried out for the proposed development, works should be undertaken in accordance with the recommendations therein.
R7	Avoid the use of external lighting, or keep its use to the minimum required for its intended purpose, during both construction and operation. This will be of benefit to nocturnal species e.g. bats. Where external lighting is to be provided, it should be low-level, directional lighting with minimal spill and glare, and consideration should be given to reduced hours of operation and/or a movement responsive system of control. Use narrow-spectrum bulbs and light sources that emit minimal UV light, avoiding white and blue wavelengths of the spectrum. Use glass lantern covers instead of plastic to filter UV light. Lighting should not be directed towards the boundary hedgerows.
R8	All excavations left overnight should either be covered over, or provided with a ramp to enable easy escape of badgers, hedgehogs, small mammals, amphibians and other fauna, and inspected each morning prior to recommencement. Open pipework greater than 150mm outside diameter should be blanked off at the end of each working day.
R9	To enable dispersal of hedgehogs (which require large territory sizes) and other small mammals across the site and within the local area following development, small access gaps to measure c.13x13cm are recommended to be provisioned at the base of all new fence boundaries. These will allow easy passage for small mammals to continue foraging in the area while still being small enough to contain pets.
R10	Where rabbit warrens are to be damaged or destroyed as part of the proposed works, this should be done in accordance with the Mammals Act 1996 by a registered pest control company.

5.5 Recommendations for Ecological Net Gain

- 5.5.1 The following ecological enhancements (Table 5.4) should be considered for the site to achieve an overall net gain for biodiversity in line with the requirements of local and national policy and guidance, but should be reviewed and specified further following the completion of recommended protected species surveys.

Table 5.4: Preliminary recommendations for ecological net gain

#	Preliminary recommendations for ecological net gain
R11	It is recommended that new green spaces are sown with a locally-sourced native wildflower and grass seed mix (i.e. wildflower meadow). This should be particularly targeted towards retained habitat features such as hedgerow boundaries, but should also be extended to public realm areas such as road verges, and if possible be included towards the margins of new areas of grassland within the site. A wildflower meadow treatment would provide a greater botanical diversity than currently present, and will benefit local populations of invertebrates such as butterflies and bees and their predators. Even if planted only at the margins of areas of amenity grassland, particularly if adjacent to other features such as hedgerows and ditches, this would provide a habitat enhancement for reptiles, small mammals and invertebrates.
R12	Hedgerow creation and/or restoration as part of the landscaping plan for the site could use a wide range of native shrub species of local provenance. Fruit, seed, nut and nectar-bearing species should be used preferentially when selecting a palette of species for landscape planting, so that food sources are available throughout most of the year (e.g. hazel <i>Corylus avellana</i>, hawthorn <i>Crataegus monogyna</i>, blackthorn <i>Prunus spinosa</i>, rowan <i>Sorbus aucuparia</i> and honeysuckle <i>Lonicera periclymenum</i>). If an evergreen hedge is required for landscape screening, suitable native species include holly <i>Ilex aquifolium</i>, holm oak <i>Quercus ilex</i> although both can be rather slow growing, ivy <i>Hedera helix</i> and privet <i>Ligustrum vulgare</i>. Beech <i>Fagus sylvatica</i> and hornbeam <i>Carpinus betulus</i> are also widely used as hedging plants and, although not evergreen, these will keep their brown leaves through winter if trimmed in late summer.
R13	Creation of one or more hibernacula and compost heaps within areas of retained habitat, and at the edges of the site close to boundary hedgerows. These would provide additional hibernation, shelter and egg-laying resources for reptiles and a range of other wildlife. Hibernacula can be created by partially burying logs and stones in sheltered areas away from flood risk, and covering over with earth or turf. Breeding habitats can be created by collecting grass clippings and other prunings arising from landscape management of the site, and composting them in a secluded corner of the site.
R14	The value of the site for birds could be enhanced by installing a range of artificial nest boxes. It is recommended that these are placed on retained trees within the development, or incorporated within building facades. For instance: ▪ New buildings: nest boxes could be installed under the eaves for birds that utilise buildings for nesting, e.g. house martin <i>Delichon urbica</i>, house sparrow <i>Passer domesticus</i>, and swift <i>Apus apus</i>. These species are of principal importance, of conservation concern and/or are notable in Sussex. ▪ Trees: nest boxes with entrance holes suitable for tit species, and open-fronted boxes suitable for spotted flycatcher <i>Muscicapa striata</i> or song thrush <i>Turdus philomelos</i>, and treecreeper <i>Certhia familiaris</i> boxes.

#	Preliminary recommendations for ecological net gain
	Artificial nest boxes for kestrels <i>Falco tinnunculus</i> and barn owls <i>Tyto alba</i> could be erected in areas of public open space / undeveloped areas, with appropriate habitat management regimes adopted to create areas/corridors of wildflower meadow as foraging/commuting habitat for these species
R15	The value of the site for bats could be enhanced by installing a range of artificial roost boxes. It is recommended that these are placed on retained trees within the development, or incorporated within buildings facades. Boxes suitable for a wide range of species should be used, for instance: - New buildings: integral bat tubes could be installed within buildings which face vegetated areas, particularly towards the north and west of the development. Bat tubes can be incorporated into the design of the building so that only the access holes are visible from the exterior of the building. The Schwegler 1FR or 2FR Bat Tube is designed to meet the characteristic requirements of the types of bats that inhabit buildings such as pipistrelles <i>Pipistrellus spp.</i> or serotines <i>Eptesicus serotinus</i>. It is designed to be installed on the external walls of buildings, either flush or beneath a rendered surface. - Pipistrelles <i>Pipistrellus sp.</i>: bat boxes suitable to install on mature trees either within or at the edges of the development include the Schwegler 1FF Flat Bat Box, or other manufacturer's equivalent. - Noctules <i>Nyctalus spp.</i> and brown long eared bats <i>Plecotus auritus</i>: bat boxes suitable to install on mature trees either within or at the edges of the development include the Schwegler 2F General Purpose Bat Box or the 2FN Woodland Bat Box, or other manufacturer's equivalent. - Bat boxes should ideally be located south-facing (between south-east and south-west) and above 4m from ground level. If possible they should be installed facing vegetation features such as mature hedgerows or trees, but with a clear line of flight for bats entering or leaving the roost, and away from sources of artificial light. The exact numbers and locations of boxes within the site and the surrounding woodland should be specified by an ecologist once further bat surveys have been carried out and the proposed site layout has been worked up in further detail.

6 Conclusions

6.1 Summary

- 6.1.1 A Preliminary Ecological Appraisal was undertaken for the site of a proposed residential development on Land at North End Road in Yapton, West Sussex. The report was prepared to establish the site's suitability for development, inform the design process for the development proposal, record the ecological baseline and identify key ecological features within and around the proposal site.

6.2 Results

- 6.2.1 There are no designated wildlife sites within the 2km desk study search area. There are records of a range of protected or notable species in the locality, including amphibians, birds, fish, invertebrates, terrestrial mammals, flowering plants and terrestrial reptiles, together with five priority habitats: Chalk stream, Lowland fen, Coastal & floodplain grazing marsh, Deciduous woodland, Wood-pasture & parkland. Ancient woodland was also recorded within 2km of the site. None of these are shown as present within the survey area.
- 6.2.2 The survey area is located to the west of North End Road and lies to the north west of Yapton Village Centre in the Arun district of West Sussex. The site comprises c.4.6ha of undeveloped land, currently dominated by improved grassland, with hedgerows, trees, tall ruderal vegetation, scrub, two agricultural buildings and hard-standing. The wider landscape is dominated by open pasture and farmland with connecting hedgerows and woodland to the north east and north west. The settlement of Yapton is located to the west and south west. No ponds lie within 250m of the survey area.

6.3 Evaluation

- 6.3.1 Table 6.1 presents a summary of ecological constraints and opportunities identified within the survey area.

Table 6.1: Summary of ecological constraints and opportunities

Feature	Detail
Constraints:	
Designated sites	There are no designated wildlife sites within the 2km desk study search area and therefore the development proposals will not have an effect on any designated sites.
Priority habitats	The hedgerow priority habitats are of comparatively greater ecological value. These features are focused on some of the site boundaries and provide habitats suitable for a range of protected species, are of value in their own right and should if possible be retained and protected during construction. Approximately 46.5m of species-poor

Feature	Detail
	hedgerow H4 would be removed to facilitate construction of a new site access to the northern part of the site from North End Road. This would be offset by native species-rich hedgerow creation and enhancement as part of the landscaping strategy for the development as a whole.
Improved grassland, Tall ruderal, Scrub, Trees	Permanent losses of up to 4.5ha of improved grassland across the site, with small areas of tall ruderal and scrub, and potential losses of young and semi-mature scattered trees, depending on the extent and layout of development proposals. These areas are of comparatively little intrinsic value but provide habitats suitable for a number of protected species (e.g. nesting birds and reptiles).
Birds (nesting)	Possible permanent loss of nesting habitats (trees, hedgerow and scrub).
Bats (foraging / commuting)	Permanent loss of low suitability habitat (grassland and hedgerows) for foraging and commuting bats.
Reptiles	Permanent loss of potentially suitable habitats (grassland, tall ruderal, scrub, hedgerow, bank, brash/log piles). It is currently unknown whether reptiles are present on site.
Opportunities:	
Priority habitats	The hedgerow priority habitats within the survey area are of comparatively greater ecological value could provide a focus for ecological enhancement measures (see below).
Habitat creation / enhancement	Habitat creation and enhancement opportunities include wildflower meadow planting, hedgerow creation/restoration, hibernacula and bird/bat boxes.

6.4 Recommendations

- 6.4.1 Recommendations are made for further protected species surveys, together with preliminary recommendations for the protection of important ecological features to avoid or mitigate ecological impacts, and to deliver ecological net gain on site post-construction; these are summarised in Table 6.2. It is intended that these preliminary recommendations should be considered during future changes to the design of development proposals so that protection of important ecological features is secured and opportunities for ecological enhancement are realised. It is further intended that these preliminary recommendations should be revised following the completion of further ecological surveys, and changes may also be necessary if the development proposals are amended.

Table 6.2: Summary of recommendations

#	Summary of recommendations
Protected species surveys	
R1	Bat activity surveys, undertaken between April and October. The surveys are partially complete and an interim report was issued in January 2020.
R2	Presence / absence surveys for reptiles, undertaken between April and September within suitable habitats on site unless the current intensive grazing regime is maintained. Grazing has continued since the site survey in March 2019.

#	Summary of recommendations
Precautionary measures	
R3	Removal of nesting bird habitats should be undertaken outside of the bird nesting season, which runs from 1 March to 31 August. It should therefore be carried out between September and February, but should be planned and implemented in accordance with the findings of the further ecological surveys recommended above, as other protected species may still be present outside of the bird breeding season.
R4	Assuming the currently intensive grazing regime within grassland habitats on site can be maintained, vegetation clearance works in the sheep grazed fields to the south and west of hedgerow H3, and areas of scrub, tall ruderals and bank/log/rubble piles at TN1 to TN6 should be undertaken during the reptile active season (broadly March/April to September/October) and in accordance with a Precautionary Method Working Statement to reduce the risk of killing/injury to reptiles.
Ecological protection measures	
R5	The hedgerow priority habitats within the survey should where possible be retained and protected during construction, and could also provide a focus for ecological enhancement measures.
R6	Standard site procedures to prevent impacts on trees should be adhered to during construction.
R7	The use of external lighting should be avoided or minimised to prevent impacts to nocturnal species such as bats. Lighting should not be directed towards the boundary hedgerows.
R8	At the end of each working day excavations should be covered over and open pipework should be capped to prevent impacts on mammals and other fauna.
R9	To enable dispersal of small mammals across the site and within the local area following development, small access gaps to measure c.13x13cm are recommended to be provisioned at the base of all new fence boundaries.
R10	Where rabbit warrens are to be damaged or destroyed as part of the proposed works, this should be done in accordance with the Mammals Act 1996 by a registered pest control company.
Ecological net gain	
R11	Green spaces should be sown with a locally-sourced native wildflower and grass seed mix.
R12	Hedgerow creation and enhancement should use a range of native fruit, seed, nut and nectar-bearing species shrub species of local provenance.
R13	Hibernacula for reptiles and amphibians could be created within areas of retained habitat.
R14	The value of the site for birds could be enhanced by installing a range of artificial nest boxes onto new buildings and retained trees.
R15	The value of the site for bats could be enhanced by installing a range of artificial roost boxes onto new buildings and retained trees.

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References and Bibliography

- Amphibian and Reptile Groups of the UK (ARG UK; 2010): *Advice Note 5: Great Crested Newt Habitat Suitability Index*. Adapted from Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* **10**(4), 143-155.
- Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F (2014): *Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA*. Freshwater Habitats Trust, Oxford.
- Botanical Society of the British Isles (2004): *UK Plant List*.
- Bright P., Morris P. and Mitchell-Jones T. (2006): *The Dormouse conservation handbook; Second Edition*. English Nature, Peterborough.
- British Standards Institution (BSI; 2012): *BS5837:2012 Trees in relation to Design, Demolition and Construction - Recommendations*. BSI Standards Limited, London.
- British Standards Institution (BSI; 2013): *BS42020:2013 Biodiversity – Code of practice for planning and development*. BSI Standards Limited, London.
- Chanin P. (2003): *Ecology of the European Otter*. Conserving Natura 2000 Rivers Ecology Series No. 10. English Nature, Peterborough.
- Chartered Institute of Ecology and Environmental Management (CIEEM, 2017a): *Guidelines for Ecological Report Writing*. 2nd Edition, CIEEM, Winchester.
- CIEEM (2017b): *Guidelines for Preliminary Ecological Appraisal*. 2nd Edition, CIEEM, Winchester.
- CIEEM (2018): *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. CIEEM, Winchester.
- Collins, J. (ed.) (2016): *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd Edition, Bat Conservation Trust, London.
- Dean M., Strachan R., Gow D. and Andrews R. (2016): *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds. Fiona Matthews and Paul Chanin. The Mammal Society, London.
- Defra (2007): *Hedgerow Survey Handbook*. Department for Environment, Food and Rural Affairs.
- Drake, C.M., Lott, D.A., Alexander, K.N.A. & Webb, J. (2007): *Surveying terrestrial and freshwater invertebrates for conservation evaluation*. Natural England Research Report NERR005, Natural England, Sheffield.
- Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015): Birds of Conservation Concern 4 ("BoCC4"): the population status of birds in the United Kingdom, Channel Islands and Isle of Man. *British Birds* **108**, 708–746.
- English Nature (2001): *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.

Environment Agency (2007): *Pollution Prevention Guidelines 5 – Works and Maintenance in or Near Water*.

Froglife (1999): *Reptile Survey: An Introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife Advice Sheet 10, Froglife, Halesworth.

Froglife (2001): *Surveying for Great Crested Newt Conservation*. Froglife Advice Sheet 11, Froglife, Halesworth.

Gent, A.H. and Gibson, S.D., eds. (2003): *Herpetofauna Workers' Manual*. Joint Nature Conservation Committee, Peterborough.

Gilbert G., Gibbons D.W. and Evans J. (1998): *Bird Monitoring Methods*. RSPB, Sandy, Beds.

Gunnel K., Grant, G. and Williams, C. (2012): *Landscape and Urban Design for Bats and Biodiversity*. Bat Conservation Trust.

Gunnel K, Murphy B, Williams C (2013): *Designing for biodiversity: A technical guide for new and existing buildings*. RIBA Publishing and Bat Conservation Trust.

Harris S., Cresswell P. and Jefferies D. (1989): *Surveying Badgers*. Mammal Society, London.

Institute of Lighting of Professionals (2018): *Guidance Note 08/18: Bats and artificial lighting in the UK*. Co-authored by the Bat Conservation Trust, September 2018.

Joint Nature Conservation Committee (2010): *Handbook for Phase 1 Habitat Survey. A Technique for Environmental Audit*, Joint Nature Conservation Committee, Peterborough.

Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001): *Great Crested Newt Conservation Handbook*, Froglife, Halesworth.

Maddock A. (ed.) (2008): *UK Biodiversity Action Plan: Priority Habitat Descriptions*. UK Biodiversity Reporting and Information Group.

Multi-agency Geographic Information for the Countryside (MAGIC) (www.magic.gov.uk)

National Joint Utilities Group (April 1995): *Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*.

Natural England (2011): *Badgers and Development: A guide to best practice and licensing. Interim Guidance*.

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000): Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* **10**(4), 143-155.

Peay S. (2000): *Guidance on works affecting White-clawed Crayfish*. Report to English Nature.

Rodwell J.S. (2006): *National Vegetation Classification: Users' Handbook*. Joint Nature Conservation Committee, Peterborough.

Roper TJ (1992): Badger *Meles meles* setts—architecture, internal environment and function. *Mammal Review* **22** (1), 43–53.

Rose F., revised and updated by O'Reilly C. (2006): *The Wild Flower Key*. Penguin, London.

Snow D.W. & Perrins C.M. (1998): *Birds of the Western Palearctic: Concise Edition*. Oxford University Press.

Appendix I: Phase 1 Habitats Map

Please see insert.



Land at North End Road, Yapton, West Sussex

	Survey area		Dense scrub
	Target note		Improved grassland
	Hedgerow, species-poor		Tall ruderal
	Hard-standing		Building



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Ordnance Survey 0100031673

Scale: 1:1,600 **Created by:** AD
Date: Jan 2020 **Reviewed by:** NP
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Appendix II: Legislation and Planning Context

Legislation

General

The main legislative instruments for ecological protection in England and Wales are the Wildlife and Countryside Act 1981 (WCA; as amended), Countryside and Rights of Way Act 2000 (CROW; as amended), Natural Environment and Rural Communities Act 2006 (NERC) and the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations).

WCA 1981 consolidated and amended pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Habitats Regulations, offering protection to a wider range of species than the latter. The Act also provided for the designation and protection of nationally important conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSI). Schedules of the act list protected species of flora and fauna, as well as invasive species, and detail the possible offences that apply to these species.

The CROW Act 2000 amended and strengthened existing wildlife legislation detailed in the WCA. It placed a duty on government departments and the National Assembly for Wales to have regard for biodiversity, provided increased powers for the protection and maintenance of SSSI, and created a right of access to parts of the countryside. The Act contained lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The NERC Act 2006 consolidated and replaced aspects of earlier legislation. Section 40 of the Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists supersede Section 74 of the CROW Act 2000. These species and habitats are a material consideration in the planning process.

The Habitats Regulations 2017 consolidate and update the Conservation of Habitats and Species Regulations 2010 and all its various amendments. The Regulations are the principal means by which Council Directive 92/43/EEC (The Habitats Directive) is transposed into English and Welsh law, and place a duty upon the relevant authority of government to identify sites which are of importance to the habitats and species listed in Annexes I and II of the Habitats Directive. Those sites which meet the criteria are, in conjunction with the European Commission, designated as Sites of Community Importance, which are subsequently identified as Special Areas of Conservation (SAC) by the European Union member states.

The Habitats Regulations also place a duty upon the government to maintain a register of European protected sites designated as a result of Council Directive 2009/147/EC on the Conservation of Wild Birds (The Birds Directive). These sites are termed Special Protection Areas (SPA) and, in conjunction with SACs, form a network of sites known as Natura 2000. The Habitats Directive introduces for the first time for protected areas, the precautionary principle; that is that projects can only be permitted having ascertained no adverse effect on the integrity of the site. Projects may still be permitted if there are no alternatives, and there are imperative reasons of overriding public interest.

The Habitats Regulations also provide for the protection of individual species of fauna and flora of European conservation concern listed in Schedules 2 and 5 respectively (European Protected Species (EPS)). Schedule 2

includes species such as otter and great crested newt for which the UK population represents a significant proportion of the total European population. It is an offence to deliberately kill, injure, disturb or trade in these species. Schedule 5 plant species are protected from unlawful destruction, uprooting or trade under the regulations. Under the Habitats Regulations disturbance includes any activity which is likely to: impair the ability of a EPS to survive, breed, reproduce, or rear/nurture its young; impair the ability of a EPS to migrate or hibernate; or significantly affect the local distribution or abundance of the species.

Badgers (*Meles meles*)

Badgers are listed under Schedule 6 of the Wildlife and Countryside Act which grants them partial protection. This protection is extended by the Protection of Badgers Act 1992 (Badger Act) which makes it an offence to take, injure or kill a badger, interfere with a sett, sell or possess a live badger, or mark or ring a badger without a licence. Under the Act disturbance is illegal without a licence. Natural England has published guidelines to be adopted when determining whether an activity is 'disturbing' i.e. a licence is required when, for example, using heavy machinery (generally tracked vehicles) within 30m of any entrance to an active sett. Licences are not normally issued during the badger breeding season (December – June inclusive).

Bats (*Chiroptera*)

Bats and their roosts are fully protected by protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ✧ Intentionally kill, injure or take a bat.
- ✧ Possess or control a live or dead bat, any part of a bat, or anything derived from a bat.
- ✧ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a bat uses for shelter or protection. This is taken to mean all bat roosts whether bats are present or not.
- ✧ Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection.
- ✧ Make a false statement in order to obtain a licence for bat work.

Birds

Birds are protected by the Wildlife and Countryside Act, 1981 (as amended). This legislation makes it an offence to intentionally kill, injure or take away any wild bird. It is also an offence to take, damage or destroy the nest of any wild bird while it is in use or being built or to take or destroy the egg of any wild bird. In addition, certain species are listed on Schedule 1 of the WCA (such as kingfisher *Alcedo atthis*). This makes it an additional offence to intentionally or recklessly disturb the adults while they are in and around their nest or intentionally or recklessly disturb their dependent young. Such species are considered to be in greater need of legal protection or of high nature conservation priority.

Birds of Conservation Concern ("BoCC4) are included on Red and Amber lists (Eaton *et al.*, 2015). Birds on the Red list are those of highest conservation priority due significant and sustained population decreases and/or range contractions (e.g. house sparrow *Passer domesticus* and starling *Sturnus vulgaris*). Birds on the Amber list are the next most critical group and include species whose population/range have shown moderate declines, or which have recovered to some extent from historical decline, such as dunnoek *Prunella modularis*.

Dormouse (*Muscardinus avellanarius*)

Dormouse is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*:

- ✧ Intentionally kill, injure or take a dormouse.
- ✧ Possess or control a live or dead dormouse, any part of, or anything derived from a dormouse.

- ❖ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a dormouse uses for shelter or protection.
- ❖ Intentionally or recklessly disturb a dormouse while it is occupying a structure or place that it uses for shelter or protection.

Great crested newt (*Triturus cristatus*; GCN) (and natterjack toad *Bufo calamita*)

GCN is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ❖ Intentionally kill, injure or take a GCN (including its eggs).
- ❖ Possess or control a live or dead GCN, any part of, or anything derived from a GCN.
- ❖ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a GCN uses for shelter or protection.
- ❖ Intentionally or recklessly disturb a GCN while it is occupying a structure or place that it uses for shelter or protection.

Otter (*Lutra lutra*)

Otter is fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ❖ Intentionally kill, injure or take an otter.
- ❖ Possess or control a live or dead otter, any part of, or anything derived from an otter.
- ❖ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that an otter uses for shelter or protection.
- ❖ Intentionally or recklessly disturb an otter while it is occupying a structure or place that it uses for shelter or protection.

Reptiles

The four common species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, adder *Vipera berus* and grass snake *Natrix natrix*) are partially protected under the WCA. They are protected, *inter alia*, against intentional killing and injuring. The handling and translocation of these reptiles does not require a licence.

Smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are fully protected by the WCA and the Habitats Regulations. The legislation makes it an offence, *inter alia*, to:

- ❖ Intentionally kill, injure or take a smooth snake or sand lizard.
- ❖ Possess or control a live or dead smooth snake or sand lizard, any part of, or anything derived from a smooth snake or sand lizard.
- ❖ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a smooth snake or sand lizard uses for shelter or protection.
- ❖ Intentionally or recklessly disturb a smooth snake or sand lizard while it is occupying a structure or place that it uses for shelter or protection.

Water vole (*Arvicola amphibious*)

Water vole is fully protected by the WCA. The legislation makes it an offence, *inter alia*, to:

- ❖ Intentionally kill, injure or take a water vole.
- ❖ Possess or control a live or dead water vole, any part of, or anything derived from a water vole.
- ❖ Intentionally or recklessly damage, destroy or obstruct access to any structure or place that a water vole uses for shelter or protection.
- ❖ Intentionally or recklessly disturb a water vole while it is occupying a structure or place that it uses for shelter or protection.

Weeds Act 1959 / Ragwort Control Act 2003

This legislation provides for orders to be made for control where notifiable weed species such as ragwort are said to be a problem. The act does not make it illegal to have ragwort (or other weed species) on your land, make it illegal to allow ragwort to spread, or force landowners automatically to control it. However, if DEFRA is satisfied that there are injurious weeds to which this Act applies growing upon any land it may serve upon the occupier of the land a notice in writing requiring them, within the time specified in the notice, to take such action as may be necessary to prevent the weeds from spreading.

Planning context

National Planning Policy Framework (Section 15: Conserving and enhancing the natural environment)

The National Planning Policy Framework (NPPF), published in February 2019, outlines the Government's commitment to the conservation of wildlife and natural features. It is concerned with:

- ❖ *Protecting and enhancing valued landscapes, sites of biodiversity or geological conservation value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- ❖ *Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- ❖ *Maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- ❖ *Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current & future pressures;*
- ❖ *Preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
- ❖ *Remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

The NPPF requires that local plans should “*distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value...; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries*”.

To protect and enhance biodiversity and geodiversity, the NPPF states that planning policies should:

- ❖ *Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- ❖ *Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.*

When determining planning applications, local planning authorities should aim to protect and enhance biodiversity by applying the following principles:



- ❖ *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- ❖ *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- ❖ *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
- ❖ *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

The following wildlife sites should be given the same protection as habitats sites:

- ❖ *potential Special Protection Areas and possible Special Areas of Conservation;*
- ❖ *listed or proposed Ramsar sites; and*
- ❖ *sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site. The policies within the NPPF (and additional guidance contained within Circular 06/2005) are a material planning consideration.

UK/Local Biodiversity Action Plan Designations and Birds of Conservation Concern and Red Data Book Listings

Note that BAP designations and status as RSPB Birds of Conservation Concern or Red Data Book species does not offer any further legal protection, but planning authorities are required to prevent these species from being adversely affected by development in accordance with National Planning Policy and the CROW and NERC Acts. The United Kingdom Biodiversity Action Plan (UKBAP), first published in 1994 and updated in 2007, was a government initiative designed to implement the requirements of the Convention of Biological Diversity to conserve and enhance species and habitats. The UKBAP contained a list of priority habitats and species of conservation concern in the UK, and outlined biodiversity initiatives designed to enhance their conservation status.

However, as a result of devolution, and new country-level and international drivers and requirements, much of the work previously carried out by the UK BAP is now focussed at a country-level rather than a UK-level, and the UK BAP was succeeded by the 'UK Post-2010 Biodiversity Framework' in July 2012. The UK lists of priority habitats and species nonetheless remain an important reference source and were used to draw up statutory lists of priority habitats and species in England, Northern Ireland, Scotland and Wales. The priority habitats and species correlate with those listed on Section 41 and 42 of the NERC Act.

The UKBAP required that conservation of biodiversity be addressed at a County level through the production of Local BAPs. These are targeted towards species of conservation concern characteristic of each area. In addition, a number of local authorities and large organisations have produced their own BAPs. Where they exist, Local BAP targets with regard to species and habitats are a material consideration in the planning process.



Appendix III: Legal and Technical Limitations

- This report has been prepared by Urban Edge Environmental Consulting Ltd (UEEC Ltd) with all reasonable skill, care and diligence within the terms of the contract made with the Client to undertake this work, and taking into account the information made available by the Client. No other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us.
- UEEC Ltd disclaims any responsibility to the Client and others in respect of any matters outside the scope of this contract. This report is confidential to the Client and is not to be disclosed to third parties. If disclosed to third parties, UEEC Ltd accepts no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any third party relies upon the contents of this report at their own risk and the report is not to be relied upon by any party, other than the Client without the prior and express written agreement of UEEC Ltd.
- The advice provided in this report does not constitute legal advice. As such, the services of lawyers may also be considered to be warranted.
- Unless otherwise stated in this report, the assessments made assume that the sites and facilities that have been considered in this report will continue to be used for their current planned purpose without significant change.
- All work carried out in preparing this report has utilised and is based upon UEEC Ltd's current professional knowledge and understanding of current relevant UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and may cause any conclusions to become inappropriate or incorrect. UEEC Ltd does not accept responsibility for advising the Client or other interested parties of the facts or implications of any such changes;
- Where this report presents or relies upon the findings of ecological field surveys (including habitat, botanical or protected/notable species surveys), its conclusions should not be relied upon for longer than a maximum period of two years from the date of the original field surveys. Ecological change (e.g. colonisation of a site by a protected species) can occur rapidly and this limitation is not intended to imply that a likely absence of, for instance, a protected species will persist for any period of time;
- This report has been prepared using factual information contained in maps and documents prepared by others. No responsibility can be accepted by UEEC Ltd for the accuracy of such information;
- Every effort has been made to accurately represent the location of mapped features, however, the precise locations of features should not be relied upon;
- Populations of animals and plants are often transient in nature and a single survey visit can only provide a general indication of species present on site. Time of year when the survey was carried out, weather conditions and other variables will influence the results of an ecological survey (e.g. it is possible that some flowering plant species which flower at other times of the year were not observed). Every effort has been made to accurately note indicators of presence of protected, rare and notable species within and adjacent to the site but the possibility nonetheless exists for other species to be present which were not recorded or otherwise indicated by the survey;
- Any works undertaken as a consequence of the recommendations provided within this report should be subjected to the necessary health & safety checks and full risk assessments.

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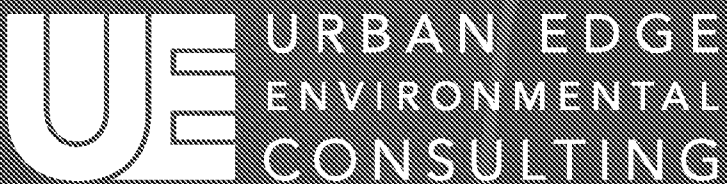
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