WOLD ECOLOGY LTD

2 Redwood Gardens, Driffield,
East Riding of Yorkshire. YO25 6XA
01377 200242

Chris Toohie M Sc. MCIEEM
chris.toohie@woldecology.co.uk
www.woldecology.co.uk

Garton Mill, Aldbrough

PRELIMINARY ECOLOGICAL APPRAISAL

September 2022

	Staff Member	Position
Habitat Survey and Preliminary Ecological Appraisal :	Chris Toohie MSc MCIEEM	Ecologist
Report prepared by :	Chris Toohie MSc MCIEEM	Ecologist

DOCUMENT CHECKING

Issue No.	Date.	Status.	Verified by.
1	03/10/2022	Draft for internal review.	Daniel Lombard B Sc MCIEEM
2	05/10/2022	Draft for client review.	Chris Toohie MSc MCIEEM
3	07/10/2022	Submission of non-draft version for client.	Chris Toohie MSc MCIEEM
This report contains sensitive information concerning protected species and caution should be exercised when copying and distributing to third parties.			

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 In August 2022, Wold Ecology was commissioned by Owen Bantin to undertake an extended phase 1 habitat survey and a preliminary ecological appraisal at Garton Mill, (national grid reference TA 26099 35692) in East Yorkshire.

1.2 In order to accomplish the brief, a desk top study, external consultation, a habitat classification field survey and preliminary ecological appraisal was undertaken by Wold Ecology staff.

1.3 The habitats within the Application Site comprise sheep grazed improved grassland and bare ground with boundary hedgerow and shelterbelt in a rural location.

1.4 The proposed development involves site clearance and the erection of a small number of residential dwellings including services and infrastructure.

1.5 The field survey and ecological appraisal targeted the following species and habitats relevant to the Application Site and the development proposal. The field surveys and preliminary ecological appraisal results are summarised below:

		Application Site Status
Great Crested Newt Surveys Required	**Great Crested Newts**	Wold Ecology recommends that a great crested newt presence or absence survey is undertaken on all suitable and accessible waterbodies within 250m of the Application Site. The recommended great crested newt surveys must follow survey methods based on the guidance contained within 'Great Crested Newt Mitigation Guidelines' English Nature, 2001.
Proceed with caution, timing constraints	**Birds**	The site is suitable for nesting birds with various designations. Any shrubs and tall vegetation to be removed should be cleared outside of the bird nesting season (i.e. clearance should be undertaken between mid-September and early February inclusive) or be carefully checked by an ecologist to confirm no active nests are present - prior to removal during the summer period. If nesting birds are found during the watching brief, works will need to stop until the young have fledged.
Advisory note	**Mammals**	The client is reminded that under the Wild Mammals (Protection) Act 1996 it is an offence to crush or asphyxiate any wild mammal with intent to inflict unnecessary suffering. This may apply during site clearance for development, particularly where burrowing animals such as foxes *Vulpes vulpes* and rabbits *Oryctolagus cuniculus* are present, since such animals could be crushed or asphyxiated in their burrows by heavy machinery. It is recommended that the rabbit warrens within the boundaries are cleared by an approved contractor prior to destructive works commencing.
No ecological constraints.	**Invasive non-native species**	No invasive species recorded on site.
	Bats	No further surveys recommended.
	Birds	
	Badger	
	Reptiles	

	Habitats	There are no Statutory or non-statutory sites located within or adjacent to the Application Site. No Biodiversity Action Plan habitats are located within or adjacent to the Application Site.

1.6 This report is valid until **March 2024**. After this time, additional surveys need to be undertaken to confirm that the status of the site for protected species, site habitat composition and conclusions within this report have not changed.

1.7 Species list within this report may be forwarded to the local biodiversity records centre to be included on their national database. No personal information will be sent. Please contact Wold Ecology Ltd if you do not wish the species accounts and grid references to be shared.

2.0 INTRODUCTION

2.1 In August 2022, Wold Ecology was commissioned by Owen Bantin to undertake an extended phase 1 habitat survey and a preliminary ecological appraisal at Garton Mill, (national grid reference TA 26099 35692) in East Yorkshire.

2.2 An ecological assessment is a requirement of the Local Planning Authority (LPA), as part of the planning application process. This is specified in the following government policy:

- National Planning Policy Framework (NPPF): Conserving and Enhancing the Natural Environment.

2.3 To protect and enhance biodiversity and geodiversity, plans should:

a) 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.

b) 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.

c) Protect and enhance valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan).

d) recognise 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.

e) Minimise impacts on and provide net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

f) Prevent 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.

2.4 When determining planning applications, local planning authorities should apply the following principles:

a) 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;

b) 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.

c) 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

d) 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.

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

a) potential Special Protection Areas and possible Special Areas of Conservation;
b) listed or proposed Ramsar sites; and
c) 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.

2.6 In addition, an ecological assessment is also required so that the local authority comply with the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and to have regard to the purpose of conserving biodiversity in the exercise of their functions (Natural Environment and Rural Communities (NERC) Act 2006).

2.7 Planning authorities must determine whether the proposed development meets the requirements of Article 16 of the EC Habitats Directive before planning permission is granted (where there is a reasonable likelihood of European Protected Species being present). Therefore, during its consideration of a planning application, where the presence of a European protected species is a material consideration, the planning authority must satisfy itself that the proposed development meets three tests as set out in the Directive as detailed below.

2.8 The LPA has to assess whether the development proposal would breach Article 12(1) of the Habitats Directive. If Article 12(1) would be breached, the LPA would have to consider whether Natural England was likely to grant a European protected species licence for the development; and in so doing the LPA would have to consider the three derogation tests:

a) 'Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment'.

In addition, the LPA must be satisfied that:

(b) 'That there is no satisfactory alternative'
(c) 'That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'.

2.9 Relevant Case Law

- Woolley v Cheshire East Borough (2009).
- R. (Morge) v Hampshire County Council (2011).
- Prideaux v. Buckinghamshire County Council and Fcc Environmental UK Limited (2013).

2.9.1 The rulings summarise that if it is clear or perhaps very likely that the requirements of the Directive cannot be met because there is a satisfactory alternative or because there are no conceivable 'other imperative reasons of over-riding public interest" then the authority should act on that and refuse permission.'

2.9.2 The conclusion of the judgement is that LPAs must ensure that the option/alternative that best takes into account all the relevant considerations (not just EPS) should be the preferred option assuming that the other two tests specified in Article 16 (1) are also met.

2.9.3 The judgements also clarified that it was not sufficient for planning authorities to claim that they had discharged their duties by imposing a condition on a consent that requires the developer to obtain a licence from Natural England. Natural England considers it essential that appropriate survey information supports a planning application prior to the determination. Natural England does not regard the conditioning of surveys to a planning consent as an appropriate use of conditions.

2.10 In order to fulfil the brief, the following has been undertaken:

- A desktop study and consultation.
- Field survey including accessible adjacent land up to 1km.
- The scope of the ecology survey is proportionate to the scale of the likely ecological effects and in this case, 2km from the Application Site.
- A phase 1 habitat survey.
- Preliminary ecological appraisal.

2.11 This report describes the findings of the field survey and desktop study whilst identifying the requirement for further ecological surveys to ensure that a comprehensive study is undertaken.

2.12 Where Ecological Impact Assessments (EcIA) is not part of an Environmental Impact Assessment, the views of the competent authority, standing advice and use of a Preliminary Ecological Appraisal can assist with the scoping of a potential EcIA.

2.13 Consultation with the planning ecologists for Hull City Council, Ryedale District Council and East Riding of Yorkshire Council (July 2020) confirmed that EcIA's are only usually required when developments are likely to have significant ecological impact effects and that developments of this size are unlikely to require a specific EcIA. Wold Ecology Ltd have undertaken over 400 Preliminary Ecological Appraisals between 2015 and 2022 for similar sites and schemes; this report format and content within has been accepted by Local Authority planning ecologists during this time period without the request for an additional EcIA. This report format, which is also commonly used by ecological consultants, is widely accepted in support of planning applications.

2.14 Where further ecological surveys have been recommended, the impact assessment will be included within those specific reports.

2.15 Whilst an EcIA on its own is not a statutory requirement, the following principles which underpin EcIA are considered within this assessment:

- Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).
- Mitigation - Adverse effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

- Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.
- Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.
- Determine the importance of ecological features affected, through survey and/or research;
- Assess impacts potentially affecting important features.

3.0 COMPANY PROFILE

3.1 Wold Ecology Ltd was established in 2006 and are experienced in providing a bespoke service for environmental management and ecological assessments. Wold Ecology Ltd employs several experienced and qualified staff/associates to undertake specialist ecological contracts.

3.2 Wold Ecology Ltd provides a wide range of specialised advice aimed at integrating business with nature. We specialise in ecological surveys, land management planning and site assessments which include:

- European Protected Species Surveys and Natural England Licenses.
- Ecological Impact Assessments and Preliminary Ecological Appraisals.
- Arboricultural Surveys.
- Ecological Construction Method Statements and Ecological Enhancements Plans.
- Ecological Clerk of Works.

3.3 Wold Ecology is committed to working towards the conservation of our natural heritage. Wold Ecology support The Wolds Barn Owl Study Group, Driffield Millennium Green, Filey Bird Observatory, Cornfield Project (Ryedale Folk Museum), Butterfly Conservation (Yorkshire Branch) and RSPB projects with volunteer staff time and financial resources. Wold Ecology has adopted an important site for nature conservation on Flamborough Head.

3.4 Wold Ecology is an Associate Member of the RSPB and Corporate Member of the Bat Conservation Trust.

3.5 Surveyor Profile – Chris Toohie M Sc., MCIEEM.

3.5.1 Job title: Director.

3.5.1.1 Expertise.

- Chris has conducted over 950 bat surveys since 2006 and held over 135 Natural England development licenses - Natural England Bat Low Impact Class License Registered Consultant.
- Phase 1 habitat field surveys and ecological appraisals including Building Research Establishment Environmental Assessment Method (BREEAM) assessments and Biodiversity Metric assessments.
- Great crested newt and reptile surveys.
- Management planning, woodland and orchard management and community environmental projects including funding applications.

3.5.2 Qualifications.

- M Sc. Arboriculture and Community Forest Management.
- Great Crested Newt License – 2016-19412-CLS-CLS (held concurrently since 2009).
- Class 2 bat license – RC027 and 2019-44215-CLS-CLS (held concurrently since 2009).

3.5.3 Professional Membership.

- Full member of the Chartered Institute of Ecology and Environmental Management (held concurrently since 2007).

3.5 Surveyor Profile – Daniel Lombard B Sc., MCIEEM.

3.5.1 Job title: Senior Field Ecologist.

3.5.2 Expertise.

- Phase 1 habitat field surveys and biodiversity assessments including BREEAM assessments.
- Bat surveys, bat ecology, bats and wind turbine assessments, bat sound analysis and monitoring.
- Great crested newt and reptile surveys.
- Mammal surveys including water vole, otter, and badger.
- Ornithological surveys including bird ringing (ringing officer at Filey Bird Observatory).
- Invertebrates studies, principally Lepidoptera, Odonata, Coleoptera and Diptera plus habitat management/creation for these groups.
- Management planning, pond, and wetland management.

3.5.3 Qualifications.

- B Sc. Environmental Science.
- Great Crested Newt License – 2015-17182-CLS-CLS
- Bat License – 2015-11490-CLS-CLS
- Bird Ringing A Licence – A/6298

3.5.4 Professional Membership.

- Full member of the Chartered Institute of Ecology and Environmental Management.

3.6 A detailed surveyor profile is included in Appendix 5.

3.7 Chris Toohie M Sc. MCIEEM meets the criteria for a suitably qualified ecologist by:

- Holding a Master's degree in Community Forestry and Arboriculture;
- Being employed as a practising ecologist since 1995, with over 25 years' relevant experience (also within the last five years) and;
- Being a full member of the Institute of Ecology and Environmental Management (this makes him subject to peer review and bound by a professional code of conduct).

3.8 Daniel Lombard B Sc. MCIEEM has read and reviewed the report and confirms that it:

- Represents sound industry practice
- Reports and recommends correctly, truthfully, and objectively
- Is appropriate, given the local site conditions and scope of works proposed
- Avoids invalid, biased, and exaggerated statements

4.0 HABITAT SURVEY METHODOLOGY

4.1 A field survey was undertaken at the Application Site on 27th September 2022. During the site visit, the whole of the Application Site and accessible neighbouring land was examined in detail.

Survey	Date	Wind Speed	Wind Direction	Temperature		Rainfall	Cloud Cover
				Start	Finish		
Field	27/09/2022	Still	-	13°C	13°C	None	30%

4.2 The habitats within the Application Site were mapped (see Appendix 2) according to the techniques described in the publication *Handbook for Phase 1 Habitat Survey* (JNCC 2010). The CIEEM 'Guidelines for Preliminary Ecological Appraisal - Second Edition' (December 2017) state that this is an appropriate habitat classification system.

4.3 Target notes (if applicable) provide descriptions of the main habitats found on the site, including information about species composition, habitat structure, evidence of management, habitats too small to map and transitional or mosaic habitats.

4.4 Sufficient detail on the composition of the vegetation was obtained from the field survey, which enabled it to be successfully characterised and assessed.

4.5 During the site visit, notes were made of features of potential value to other groups such as birds, mammals, amphibians, reptiles, or invertebrates, paying particular attention to species protected by law:

Species/Group	Indicative habitat	Field signs (in addition to sightings)
Bats	Roosts - Trees, buildings, bridges, caves etc. Foraging and commuting areas - e.g. Parkland, waterbodies, wetlands, woodland, hedgerows and linear features.	Potential roost sites. Droppings, urine splashes, staining and feeding remains.
Badger	Habitat mosaic in rural and many urban habitats.	Excavations and tracks, sett entrances, latrines, hairs, well-worn paths, prints, scratch marks on trees.
Otter	Rivers, streams, canals, ponds, lakes, ditches, drains and coastal areas.	Holts (or dens), prints, spraints, slide marks into watercourses and feeding signs.
Water Vole	Rivers, streams, canals, ponds, lakes, ditches, drains and marshes.	Burrow entrances, prints, distinctive latrine areas and feeding signs.
Birds	Habitat mosaic. Natura 2000 sites/SPA/SAC/Ramsar.	Nests, droppings below nest sites (especially in buildings of trees); tree holes.
Reptiles	Habitat mosaic.	Sloughed skins.
Great Crested Newt	Ponds within 250m of suitable habitat within the site boundary. Habitat Suitability Index (HSI assessment).	Egg wraps and animals (depending on time of year).

4.6 The field survey and ecology report reflect relevant guidance from the following CIEEM documents:

- Guidelines for Preliminary Ecological Appraisal - Second Edition, December 2017.
- Guidelines for Ecological Impact Assessment in The UK And Ireland - Terrestrial, Freshwater, Coastal and Marine (September 2018).

5.0 LIMITATION OF FIELD SURVEY

5.1 Whilst the majority of the Application Site was examined at the macro scale, many species will have been overlooked at the micro level because it is not the purpose of a phase 1 habitat survey to classify all taxa occurring in the Application Site. In addition, whilst the actual timing of the survey was adequate to classify the habitat types, there is undoubtedly a strong seasonal element to the presence of species within the site and species occurring outside of the survey period will have been overlooked.

5.2 This report will serve to indicate the possible value of the site in nature conservation terms based upon the initial field survey and desk top data gathered. As with any survey of this kind, it cannot be a definitive description of the site and its associated habitats and species.

5.3 Access was only granted within the Application Site and land owned by the client; in some instances neighbouring land was studied from vantage points and public land, maps within the public domain and aerial photography, it is possible that habitats important to the ecology of the Application Site may not have been recorded fully.

5.4 It is not always possible to identify every pond within 250m of an Application Site and whilst every effort was made to access all ponds, Wold Ecology Ltd do not guarantee that every pond within 250m have been included within this assessment.

5.5 However, a phase 1 habitat survey and preliminary ecological appraisal of this nature, supported by a thorough desk top survey, is sufficient to make a number of informed assumptions about the ecology of the site.

6.0 DESK TOP STUDY

6.1 General description

6.1.1 The Application Site is located 3.3km south of Aldbrough village, in a rural location. The Application Site is approximately 1 ha and is immediately surrounded by agricultural land dominated by sheep grazed pasture and a mixed broadleaf shelterbelt along the eastern boundary. Habitats within the Application Site include improved grassland and bare ground bounded by a mixed broadleaf woodland and a hedgerow.

6.1.2 Habitats within 2km surrounding the Application Site is primarily low lying agricultural land dominated by arable production with some grazed pasture. Woodland cover within 2km and much of Holderness is low and occurs as small shelterbelts and plantations adjacent to farms and small holdings. Whilst the Application Site is not connected to any ecologically valuable habitat, connectivity within 2km is provided by hedgerows, hedgerows with trees and ditches that drain the predominant arable land and link the Application Site with the wider countryside.

6.1.3 A summary of the surrounding habitat is (radius of < 2km from the site):

- Buildings – farm buildings and residential properties
- Hedgerow
- Mature trees and woodland
- Bail Wood
- New Plantation
- Browning Plantation
- Fox Covert
- Arable
- Mature private gardens
- Ponds and watercourses
- East Newton Drain
- Bail Drain
- Cess Dale Drain
- Grazed pasture

6.2 Desktop Study.

6.2.1 Natural England, the North & East Yorkshire Ecological Data Centre (NEYEDC), www.magic.gov.uk, social media, local authority planning portal and Wold Ecology employees, field surveyors and network of associate ecologists were consulted in order to obtain any ecological information that they hold of relevance to the Application Site and surrounding area.

6.2.2 The desk top study identifies land parcels of nature conservation value within 2 km of the Application Site. Relevant extracts from associated documentation are highlighted below. The following data resources were searched:

- Sites of Special Scientific Interest (SSSI)
- Special Protection Areas (SPA)
- National Parks
- National Reserves

- Special Areas of Conservation (SAC)
- Ramsar sites
- Areas of Outstanding Natural Beauty (AONB)
- Local Nature Reserves (LNR)
- Local wildlife sites (LWS) or equivalent
- Natural England Habitat Inventories
- Natural Character Area documentation
- European protected species records
- UK Biodiversity Action Plan habitats and species records
- Local Biodiversity Action Plan habitats and species records
- Notable species records

6.2.3 International Designated Sites

6.2.3.1 The following International Designated Sites lie within 2 km of the Application Site (see figure 1):

Designation	Name or location of site	Grid reference in relation to the search area
Special Protection Areas	Greater Wash	TA276368

6.2.3.2 The Greater Wash SPA is described as:

- The Greater Wash SPA is classified for the protection of red-throated diver (*Gavia stellata*), common scoter (*Melanitta nigra*), and little gull (*Hydrocoloeus minutus*) during the non-breeding season, and for breeding Sandwich tern (*Sterna sandvicensis*), common tern (*Sterna hirundo*) and little tern (*Sternula albifrons*).
- This site protects important foraging areas for the largest breeding populations of little tern in the UK marine SPA network (798 pairs), and important areas used by the second largest non-breeding populations of red-throated diver (1,407 individuals) and little gull (1,255 individuals) within the UK SPA network. The boundary of the Greater Wash SPA extends beyond 12 nautical miles; hence it is a site for which both Natural England and JNCC have responsibility to provide statutory advice. The SPA lies along the east coast of England in the mid-southern North Sea and extends between the counties of Yorkshire (to the north) and Suffolk (to the south).
- The Greater Wash SPA boundary was produced as a composite boundary enclosing the extents of the important areas identified for each of the qualifying species. The seaward extent of the boundary is defined by the distribution of red-throated diver, and by the foraging area of Sandwich tern off the north Norfolk Coast.

6.2.3.3 The International Designated Site is located 1.9km east of the Application Site and is a marine protection area. The landward boundary follows Mean High Water, and the boundary of this SPA extends into offshore waters beyond 12 nautical miles. Consequently, the impact to the International Designated Site from the proposed terrestrial development is considered to be negligible.

6.2.4 Nationally Designated Sites

6.2.4.1 There are no Nationally Designated Sites within 2 km of the Application Site.

6.2.5 Locally Designated Sites

6.2.5.1 The following locally designated sites lie within 2 km of the Application Site (see figure 2):

6.2.5.1.1 Local Wildlife Sites

Site Name	Site Ref	Grid Reference	Status
Bail Wood	TA2535-01	TA252366	Designated LWS
Garton – Humbleton	TA2535-02	TA257352 – TA260352	Designated LWS
Grimston Hall Woodland	TA2535-03	TA283353	Deleted LWS

6.2.5.2 The Locally Designated Sites will not be impacted on due to the small-scale nature of the proposed development and the distance between the Application Site and the nearest LWS which is greater than 400 metres. Consequently, the impact to Locally Designated Sites is considered to be negligible.

6.2.6 Natural England Habitat Inventories

6.2.6.1 All the Natural England Priority Habitat inventories were searched, including the woodland inventory and grassland inventory. The following areas of notable habitat from the Habitat Inventories list were found within 2 km of the Application Site (see Figure 3).

Habitat type	Location description
Ancient & Semi-Natural Woodland	Bail Wood LWS.

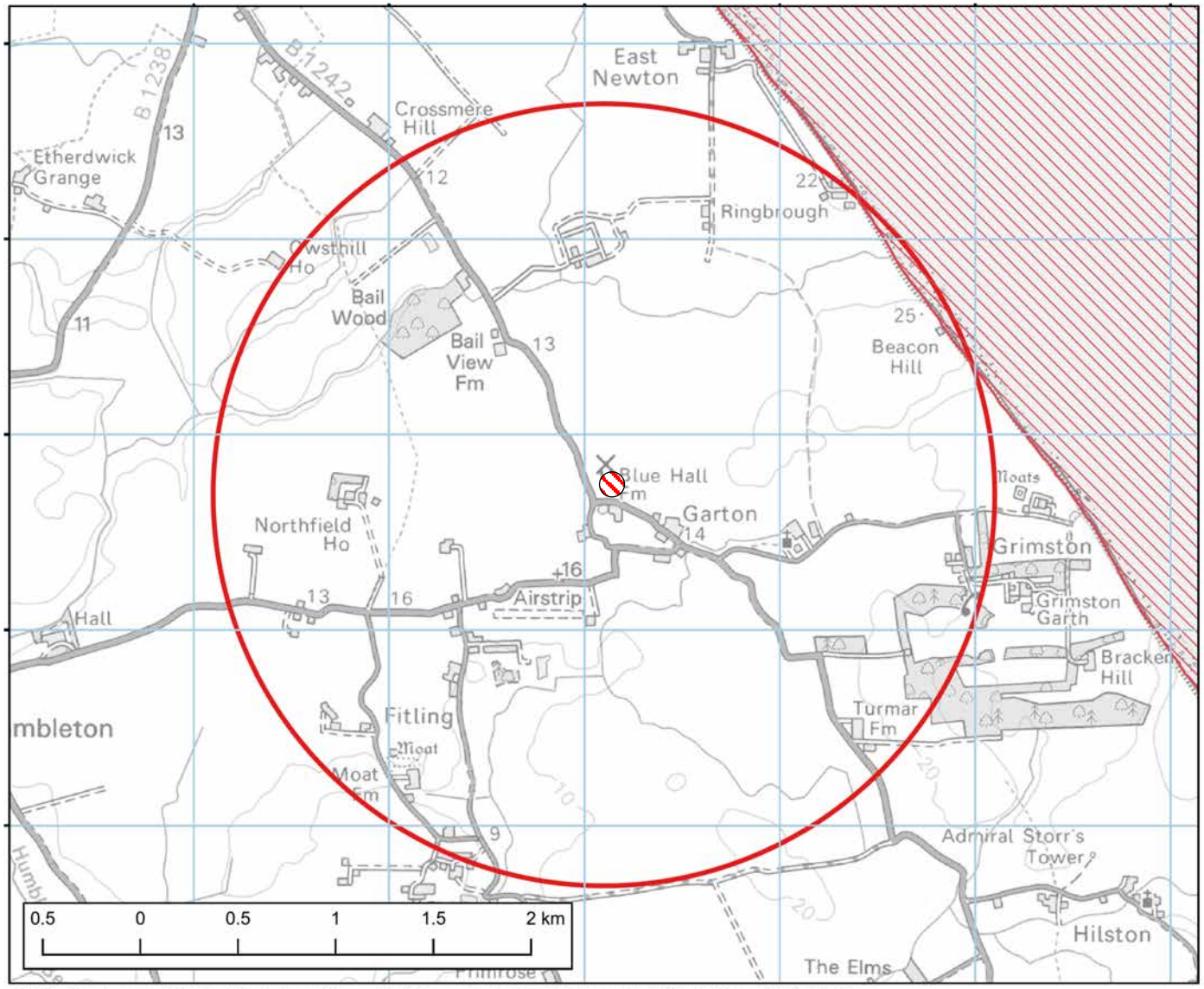
Priority Habitat Inventory published August 2017

The following areas of priority habitat are in or partly within the search area and are shown on the accompanying map

Habitat type	Location description
Maritime cliff and slope	Small sections of coastline near Ringborough TA274370.
Deciduous woodland	Several small polygons throughout the search area, most near Grimston.

6.2.6.2 The Natural England Priority Habitats will not be impacted on due to the small-scale nature of the proposed development and the distance between the Application Site and the notable habitat, which is greater than 500 metres. Consequently, the impact to the Natural England Priority Habitat is considered to be negligible.

Figure 1.



NORTH

Scale: 1:25,000

Drawing title:
Internationally Designated Site Map

Legend

SPA

Search Area

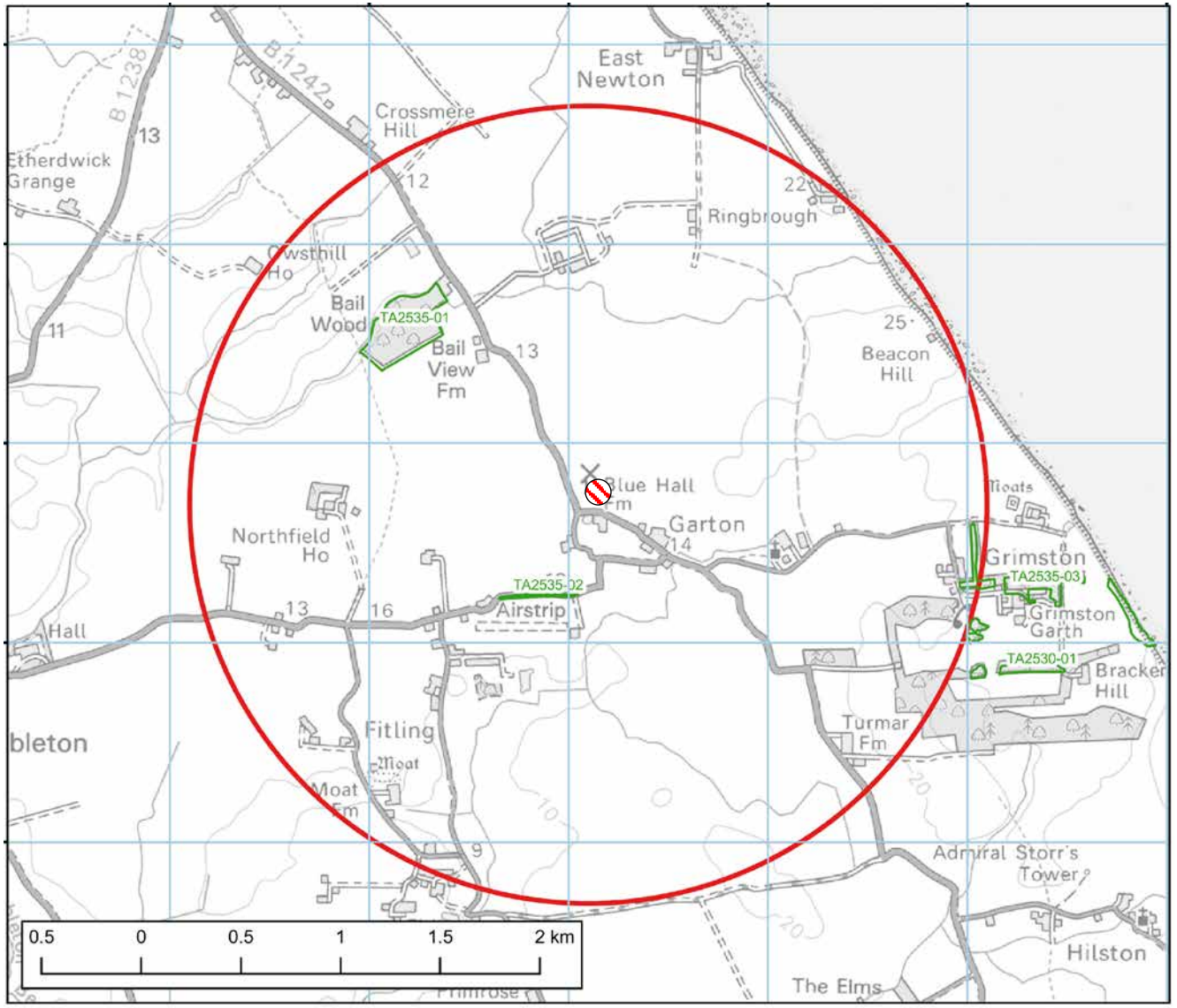
Application Site

WOLD ECOLOGY LTD

2 Redwood Gardens
Driffield
East Yorkshire
YO25 6XA

T: 01377 200242
E: info@woldecology.co.uk
W: www.woldecology.co.uk

Figure 2.



NORTH

Scale: 1:25,000

Drawing title:
Locally Designated Site Map

Legend

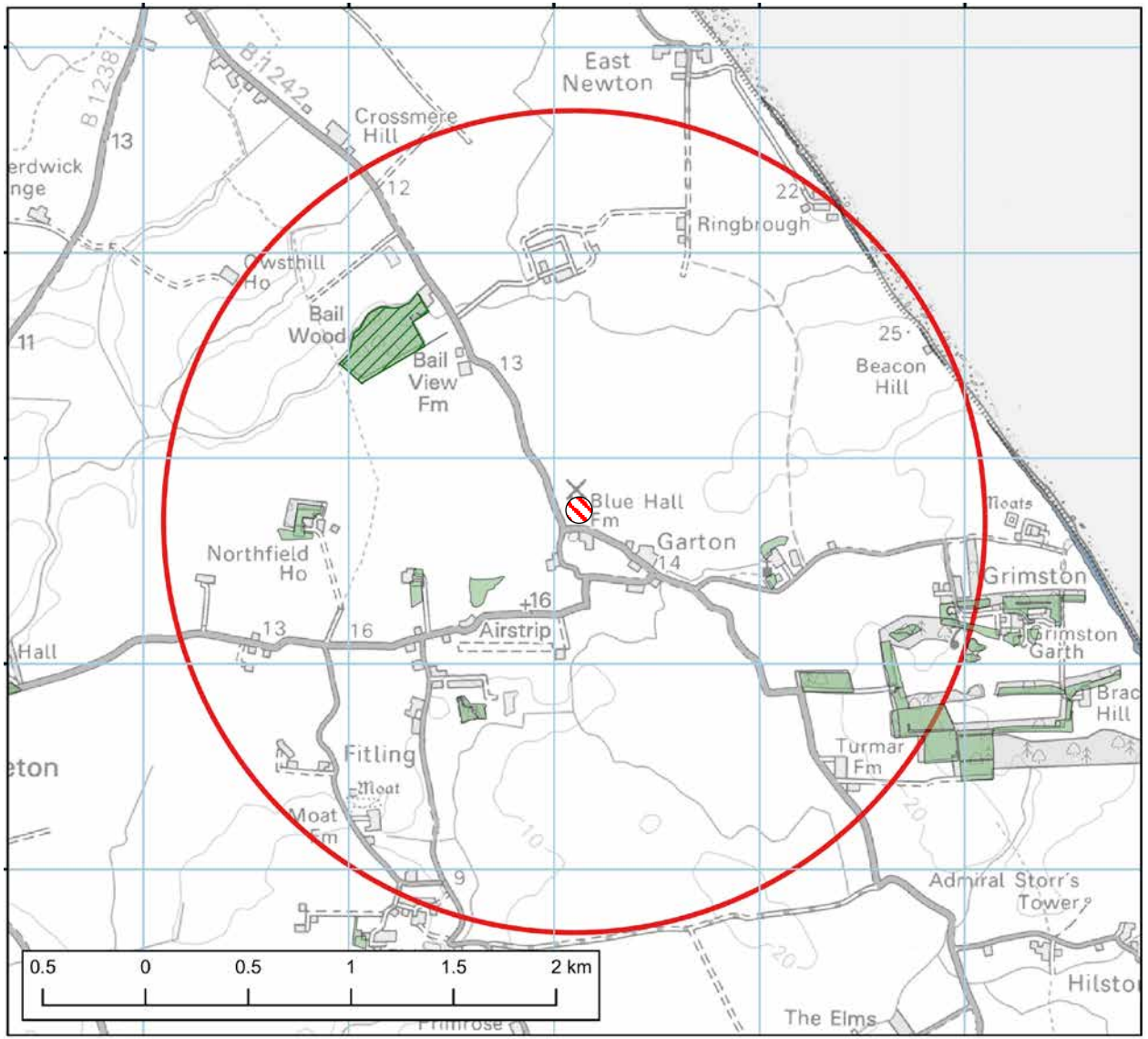
- East Yorkshire LWS
- Search Area
- Application Site

WOLD ECOLOGY LTD

2 Redwood Gardens
Driffield
East Yorkshire
YO25 6XA

T: 01377 200242
E: info@woldecology.co.uk
W: www.woldecology.co.uk

Figure 3.



NORTH

Scale: 1:25,000

Drawing title:
Natural England Priority Habitats Map.

Legend

Habitats

AWI

ASNW

PHI

Deciduous woodland

Maritime cliff and slope

Search Area

Application Site

WOLD ECOLOGY LTD

2 Redwood Gardens
Driffield
East Yorkshire
YO25 6XA

T: 01377 200242
E: info@woldecology.co.uk
W: www.woldecology.co.uk

6.3 Natural Character Areas

6.3.1 National Character Areas (NCAs) divide England into 159 distinct natural areas. Each is defined by a unique combination of landscape, biodiversity, geodiversity and cultural and economic activity. Their boundaries follow natural lines in the landscape rather than administrative boundaries, making them a good decision making framework for the natural environment. As part of its responsibilities in delivering the Natural Environment White Paper, Biodiversity 2020 and the European Landscape Convention, Natural England is revising its National Character Area profiles to make environmental evidence and information easily available to a wider audience.

6.3.2 NCA profiles are guidance documents which will help to achieve a more sustainable future for individuals and communities. The profiles include a description of the key ecosystem services provided in each character area and how these benefit people, wildlife and the economy. They identify potential opportunities for positive environmental change and provide the best available information and evidence as a context for local decision making and action.

6.3.3 The Application Site lies within Natural Character Area 40 Holderness and is summarised below:

- Holderness is a rural, low-lying, undulating plain with the broad, shallow valley of the River Hull flowing southwards through the centre towards Hull. The river eventually joins the expansive Humber Estuary where it becomes tidal, enclosed by flood banks, and drains into the North Sea.
- The National Character Area (NCA) is bounded by the dip slope of the Yorkshire Wolds to the north and west, while eastwards, beyond the coastline of soft boulder clay cliffs, lies the North Sea. Rapid erosion of these cliffs is a conspicuous feature of this NCA, and forms part of an important coastal process of sediment transfer. Holderness is the single most important source of sediment in the southern North Sea: the sediment is carried south to the Humber, the Lincolnshire coast and the Wash, where it feeds beaches and through accretion helps intertidal habitats to adjust to rising sea levels.
- Holderness shares an underlying chalk aquifer with the Yorkshire Wolds and is an important water resource for the area. The springs and streams flowing from the Wolds are part of the most northerly chalk streams in Britain, and they merge to form the River Hull in Holderness. The River Hull's headwaters are designated as a Site of Special Scientific Interest (SSSI) as a chalk stream and for marginal riparian habitats. Holderness has six SSSI which provide evidence of the glacial and postglacial history of the area. These consist of exposures in cliffs and gravel pits, and also include the remnants of bogs and meres. Hornsea Mere is a large, natural lake and is designated as an SSSI for its marginal habitats and as a Special Protection Area for populations of wintering wildfowl.

6.3.4 There are no relevant Statements of Environmental Opportunities that are relevant to the Application Site.

6.4 European Protected Species records (relevant to the Application Site)

6.4.1 Badger

- Badger *Meles meles* is recorded within the 2km radius surrounding the Application Site (source – NEYEDC 2022 and Wold Ecology network pers comm).

6.4.2 Bats

- Currently, there is no pre-existing information on bats at the site.
- There are records of brown long-eared bat *Plecotus auritus*, noctule *Nyctalus noctula*, Natterer's bat *Myotis nattereri*, Daubenton's bat *Myotis daubentonii*, soprano pipistrelle *Pipistrellus pygmaeus* and common pipistrelle *Pipistrellus pipistrellus* within the surrounding 5km radius of the Application Site. (source – NEYEDC 2021 and Wold Ecology network pers comm). Wold Ecology bat records date from 2006 and include over 1000 bat activity surveys.
- There are no known Natural England development licenses relating to bats within 2km of the Application Site (source – www.magic.gov.uk).

6.4.3 Great crested newts

- There are no records of great crested newt for ponds located within 2km of the Application Site.
- There are no Natural England eDNA records within 2km of the Application Site (source - https://naturalengland-defra.opendata.arcgis.com/datasets/great-crested-newts-edna-pond-surveys-for-district-level-licensing-england
- There are no great crested newt Natural England development licenses within 2km of the Application Site (source – www.magic.gov.uk).

6.4.4 Water vole

- Water vole *Arvicola amphibious* is recorded within the surrounding 2km radius with records at:

Location	Distance from site	Direction
Flitling fish ponds	950m	SW
source – NEYEDC 2021 and Wold Ecology network pers comm		

6.4.5 Otter

- There are no otter *Lutra lutra* records within 2km of the Application Site (source – NEYEDC 2022).

6.4.6 Reptiles

- There are no reptile records within 2km of the Application Site (source – NEYEDC 2021 and Wold Ecology network pers comm).

7.0 PHASE 1 FIELD SURVEY RESULTS

7.1 The following habitat types were recorded within the Application Site:

Phase 1 Habitat Classification	JNCC Reference Code
Broad-leaved plantation woodland	A1.1.2
Improved grassland	B4
Species poor hedge with trees	J2.3.2
Fence	J2.4
Wall	J2.5
Bare ground	J4

7.2 Broad-leaved plantation woodland

7.2.1 This habitat occurs along the eastern boundary of the Application Site, immediately adjacent to but outside of the red line boundary and appears to have been planted as a shelterbelt and as screening. The trees in this habitat have been planted within the past 50 years and consequently are still relatively immature and of limited ecological value. These trees for a dense canopy and have been planted in close proximity to one another.

7.2.2 Species consist sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior*, Corsican pine *Pinus nigra* (less than 10%), wild cherry *Prunus avium*, pedunculate oak *Quercus robur*, silver birch *Betula pendula*, lime *Tilia sp*., field maple *Acer campestre* and Norway maple *Acer platanoides*.

7.4 Improved grassland

7.4.1 This habitat dominates the Application Site and is currently grazed by sheep. The soils appear to be nutrient rich, sandy and well drained. Part of this habitat has been cultivated and comprised areas of bare soil.

7.4.2 Botanical species observed included perennial ryegrass *Lolium perenne*, annual meadow grass *Poa annua*, creeping bent *Agrostis stolonifera*, creeping buttercup *Ranunculus repens*, dandelion *Taraxacum officinale*, groundsel *Senecio vulgaris*, common ragwort *Senecio jacobaea*, Yorkshire fog *Holcus lanatus*, false oat grass *Arrhenatherum elatius*, broad-leaved dock *Rumex obtusifolius*, chickweed *Stellaria media,* spear thistle *Cirsium vulgare*, ribwort plantain *Plantago lanceolata,* greater plantain *Plantago major*, stinging nettle *Urtica dioica*, dandelion *Taxacarum officinale*, white-dead nettle *Lamium album,* common sorrel *Rumex acetosa*, cow parsley *Anthriscus sylvestris*, hogweed *Heracleum sphondylium*.

7.4.3 All species are common and widespread in improved grasslands with a reduced ecological value due to previous management and soil fertility.

7.5 In-tact species poor hedge with trees

Hedge 1			
Location	This hedge forms the southern boundary of the Application Site.		
Height	5 m	Width	3m
Cross Section	Uncut except occasional cutting alongside the highway.		
Gap – hedge base	Gap between ground and base of canopy less than 0.5 m for more than 90% of length.		
Gap - hedge canopy continuity	Gaps make up less than 10% of total length No canopy gaps greater than 5m		
Undisturbed ground and perennial vegetation	Less than 1m width of undisturbed ground with perennial herbaceous vegetation for more than 90% of its length. Adjacent land use (within 10m) comprises short grassland and sheep grazed pasture.		
Species composition	Hawthorn *Crataegus monogyna* is the most abundant specie, with wych elm *Ulmus glabra,* ash *Fraxinus excelsior,* elder *Sambucus nigra* and bramble *Rubus fruticosus* also present. The ash trees are suffering from ash dieback. More than 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species.		
Species rich (four woody species per 30m length)	The hedgerow is not species rich and there are no ancient woodland or hedgerow communities associated with these hedges.		
Management and current damage	Uncut hedge except for trimming along the adjacent highway. More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities. There was no evidence to suggest that the hedgerows are old landscape features.		

7.6 Fence

7.6.1 A post and wire fence is present to restrict livestock movement onto adjacent land. Fencing has low ecological significance and does appear to prevent smaller vertebrates dispersing in to the Application Site.

7.7 Bare ground

7.7.1 Bare ground habitats within the Application Site are interspersed within the improved grassland following cultivation. This habitat has been colonised by an thistles, nettles and docks.

7.8 Wall

7.8.1 A short section of brick wall forms the west boundary, the wall is 1.5m tall and in good condition.

7.9 The following species of fauna were recorded during the field survey:

- Blackbird *Turdus merula*
- Wren *Troglodytes troglodytes*
- Woodpigeon *Columba palumbus*

- Collared dove *Streptopelia decaocto*
- Carrion crow *Corvus corone*
- Magpie *Pica pica*
- Rabbit *Oryctolagus cuniculus*
- Banded snail *Cepaea nemoralis*
- Black slug *Arion ater*
- Roe deer *Capreolus capreolus*

8.0 SPECIES APPRAISAL

8.1 The habitats within and surrounding the Application Site are potentially important, and the development area may impact upon mobile species. Consequently, the field survey and preliminary ecological appraisal targeted the following species relevant to the Application Site and proposed development:

- Bats
- Great crested newt
- Badger
- Reptiles
- Birds
- Hedgehog

8.2 Bats

8.2.1 Legislation

8.2.1.1 All bats and their roosts are fully protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and are further protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

8.2.1.2 The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, provision 41 states an offence is committed if a person:

(a) Deliberately captures, injures, or kills any wild animal of a European protected species (i.e. bats),
(b) Deliberately disturbs wild animals of any such species,
(c) Deliberately takes or destroys the eggs of such an animal, or
(d) Damages or destroys a breeding site or resting place of such an animal.

8.2.1.3 Section 9 of the Wildlife and Countryside Act (1981) states:

- It is an offence for anyone without a licence to kill, injure, disturb, catch, handle, possess or exchange a bat intentionally. It is also illegal for anyone without a licence to intentionally damage or obstruct access to any place that a bat uses for shelter or protection.

8.2.1.4 Bat roosts are protected throughout the year, whether or not bats are occupying a roost site.

8.2.2 Field Survey Methodology

8.2.2.1 The daytime assessment identified whether the adjacent trees had any signs of occupancy and/or bat usage. This took the form of a methodical external search for actual roosting bats and their sign. Specifically, the visual survey involved the following:

8.2.2.2 Trees

a. Assessment and evaluation of the trees and their potential to support bats;
b. Tree hazard assessment including tree characteristics, health, site conditions, and defects in relation to a trees potential to support bats. Features that might indicate the presence of bats are as follows:
    - Trees that contained a cavity or space of at least 10mm

- Woodpecker holes, rot holes, cavities, loose bark and ivy, examples of known roost sites
- Tree diameter at chest height of > 20cm (less indicates that bats are less likely to be present)
- Trees < 80 years of age are less likely to be attractive to bats
- Droppings, scratch marks and staining on beams, cavities and under bark.

a. Assessment of crevices and cracks to assess their importance for roosting bats.

8.2.3 Field Survey Results

8.2.3.1 Following the visual inspection, an assessment was made of the trees suitability to support roosting bats.

8.2.3.2 No potential roost sites exist within the studied trees on site, predominantly due to a lack of suitable roosting cavities within the trees, in addition to their immature age and form of the trees; the wall on site did not contain any features to support roosting bats. The impact to roosting bats is considered to be **neutral**.

8.2.3.3 The wider area supports several woodland habitats, mature gardens and grasslands which offer alternate foraging and commuting habitat for bats. The Application Site habitats are similar to surrounding agricultural habitats and consequently, the Application Site is not considered integral to the favourable population status of local bat populations. The impact to foraging and commuting bats is considered to be **neutral**.

8.2.4 Biodiversity Gains and Recommendations

8.2.4.1 Specially designed bat boxes can be located on site. Schwegler Bat Boxes are recommended and well tested boxes. The following bat boxes provide additional roost habitats and are available from Wold Ecology:

- The **2FN** bat box has two entrances - one at the front and one at the rear against the tree. Bats often creep into the rear entrance but leave by the front. It has a domed roof to allow the bats to form roosting clusters for warmth and this bat box is also designed to be effective against small predators and excludes draughts and light. Due to the opening on the bottom, this bat box does not require cleaning.
- The **1FQ** is an attractive box designed specifically to be fitted on the external wall of a house, barn, or other building. Equally appealing to bats as a roost or a nursery, it features a special porous coating to help maintain the ideal temperature inside along with a rough sawn front panel to enable the bats to land securely.
- Bat Tube (**1FR** and **2FR**) system. The tube is designed to meet behavioural requirements of the types of bats that roost in buildings i.e. pipistrelle spp. This design can be installed flush to external walls and beneath a rendered surface.

8.2.4.2 The majority of these boxes are self-cleaning as they are designed so that the droppings fall out of the entrance. This reduces the possibility of smell during the summer months. For more information on designs and installation of bat boxes see: www.schwegler-natur.de and www.bct.org.uk.

8.2.4.3 Wold Ecology recommends that at least 2 bat boxes are sited on perimeter trees or new buildings on site. Bat boxes should be erected on south, east or west elevations; 3-5 metres above ground level or close to roof lines.

8.2.4.4 Lighting has a detrimental effect on bat activity; many bats will actually avoid areas that are well lit. Lighting can cause habitat fragmentation by preventing bats from commuting between roosts and foraging grounds (A.J Mitchell-Jones 2004).

8.2.4.5 It is recommended that a lighting consultant is employed to design a lighting plan based on the following principles:

- Luminaire and light spill accessories - Lighting should be directed to where it is needed, and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only.
- If applicable, the height of lighting columns in general should be as short as is possible as light at a low level reduces the ecological impact. However, there are cases where a taller column will enable light to be directed downwards at a more acute angle and thereby reduce horizontal spill. For pedestrian lighting, this can take the form of low level lighting that is as directional as possible and below 1 lux at ground level.
- Aim for lighting column of 5m or less, hooded and cowled to prevent light spill, for main lighting columns.
- All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used.
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability.
- A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component.
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill.
- The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered.
- Only luminaires with an upward light ratio of 0% and with good optical control should be used.
- Luminaires should always be mounted on the horizontal, i.e. no upward tilt.
- Any external security lighting should be set on motion-sensors and short (1min) timers.
- As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed.
- Light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding

8.2.4.6 At this site, new lighting design will ensure lights will **not** be mounted where they will shine directly on to bat boxes, or the surrounding woodland/hedgerows habitat used by foraging and commuting bats. A light intrusion lux level besides woodland edges/ hedgerows along the east and southern boundaries will be 1 lux or below.

8.3 Great crested newt.

8.3.1 Legislation

8.3.1.1 The great crested newt is protected under European and British legislation. Under European legislation it is protected under EC Directive (92/43/EEC) 'The Conservation of Natural Habitats and of Wild Fauna and Flora', being listed under Annexes IIa and IVa. This is implemented in Britain under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and is further protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. This prohibits the intentional killing of newts, the deliberate taking or destruction of eggs, damage or destruction of a breeding site or resting place, intentional/reckless damage to or obstruction of a place used for shelter or protection, possession of a great crested newt and any form of trade of great crested newts.

8.3.1.2 Under British legislation, the great crested newt is given full protection under section 9 of the Wildlife and Countryside Act 1981 (as amended). This Act transposes into UK law the Convention on the Conservation of European Wildlife and Natural Habitats (commonly referred to as the 'Bern Convention'). This prohibits the intentional killing, injuring or taking, possession or disturbance of great crested newts whilst occupying a place used for shelter or protection and the destruction of these places. Protection is given to all stages of life (e.g. adults, sub-adults, larvae, and ovae).

8.3.1.3 In combination the above legislation prohibits the following:

- Intentionally kill, injure or take a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt;
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for that purpose;
- Deliberately capture or kill a great crested newt;
- Deliberately disturb a great crested newt;
- Deliberately take or destroy eggs of a great crested newt;
- Damage or destroy a breeding site or resting place of a great crested newt.

8.3.1.4 The great crested newt is therefore described as 'fully protected'.

8.3.2 Field Survey Methodology

8.3.2.1 A habitat assessment was completed on the proposed development area and surrounding land (250 metres radius) accessible at the time of the survey. The assessment combined Great Crested Newt Mitigation Guidelines (English Nature 2001) and Evaluating the Suitability of Habitat for the Great Crested Newt (R. S. Oldham, J. Keeble, M. J. S. Swan and M. Jeffcote, undated) methodology.

8.3.2.2 The entire Application Site was assessed for its potential to support great crested newts, whilst conducting the field survey. In addition, aerial photographs, maps and physical searches of the surrounding landscape identified how the Application Site is connected to ponds within the locality and potentially, great crested newt populations.

8.3.2.3 Amphibians can take refuge under logs, bark and stones whilst in terrestrial habitat. All available features within the Application Site were turned over to search for the presence of amphibians. This method is not an effective method of presence/absence; however, it can be used as a general indication of amphibians within an area. Despite the time of year amphibians are occasionally found outside of hibernacula in such situations, especially during mild damp weather such as that prior and during the field survey.

8.3.3 Field Survey Results

8.3.3.1 Pond 1 is located 100 metres north of the Application Site boundaries, ponds are also present to the south of Aldbrough Road although these were on private land and not accessed. Locations and number of ponds was identified in the field and through the use of aerial photographs and OS maps.

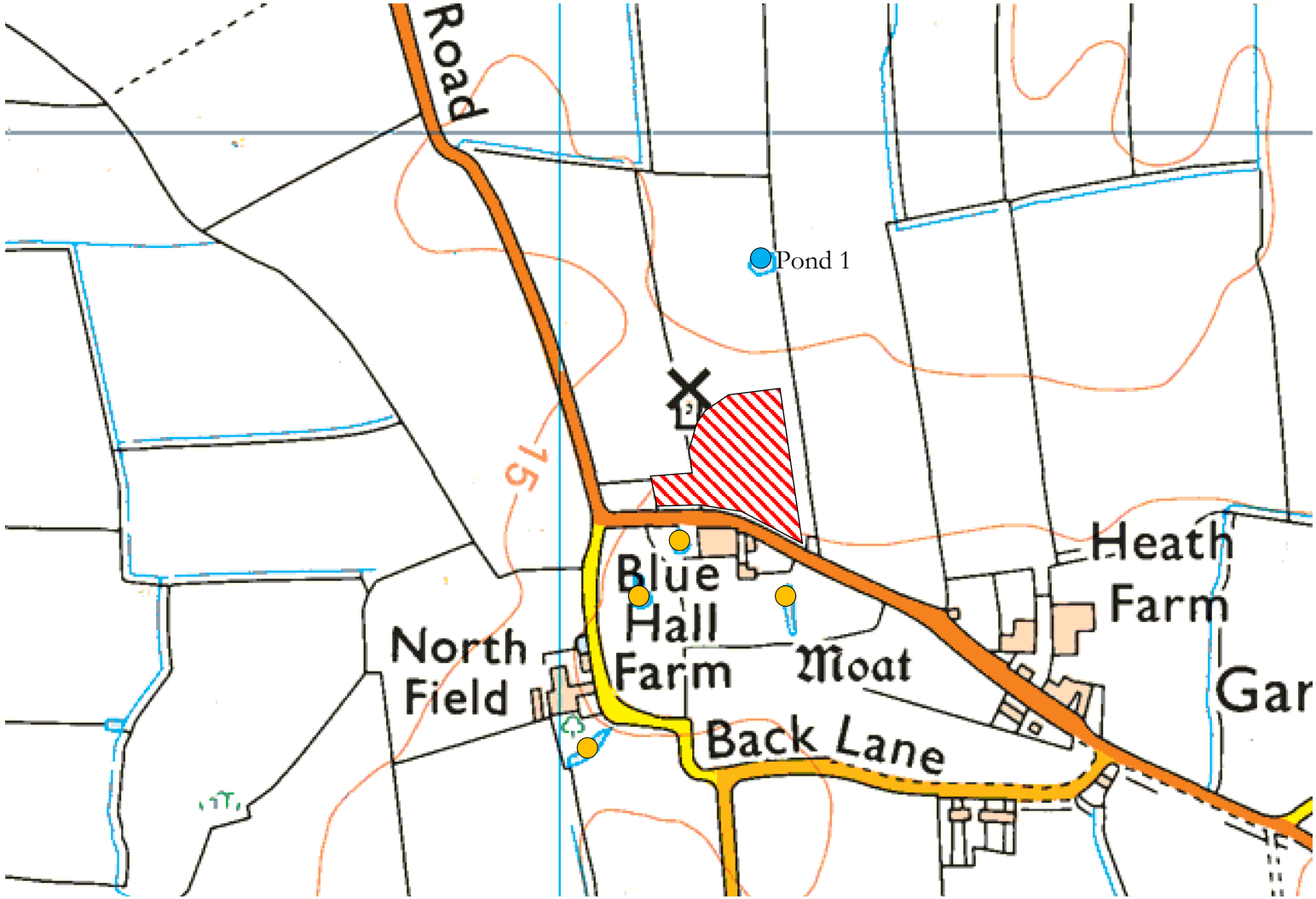
8.3.3.2 The wider habitat contains a network of other ponds and waterbodies, which span across the adjacent agricultural landscape. Consequently, the pond included in the assessment is(see figure 4):

- Pond 1 (P1) – TA 26191 35878

8.3.3.3 Habitat Suitability Index Scoring

Pond	**HSI Score** (tenth root of total)	**Suitability**
1	0.363609	0.90
Full details of the HSI scoring can be viewed in Appendix 7.		

Figure 4.



NORTH

Not to Scale

Drawing title:
Pond map.

KEY

	Pond accessed
	Pond on private land (not surveyed
	Application Site

WOLD ECOLOGY LTD

2 Redwood Gardens
Driffield
East Yorkshire
YO25 6XA

T: 01377 200242
E: info@woldecology.co.uk
W: www.woldecology.co.uk

83.4 Site Status Assessment

8.3.4.1 It has been determined that a pond suitable for great crested newt and numerous other ponds are located within 100m of the Application Site. 100m is within the range that great crested newt may travel to terrestrial habitat and/or other aquatic breeding sites. Habitat connectivity between the Application Site, pond 1 and ponds to the south of Aldbrough Road occur via sheep grazed pastures, woodland cover and hedgerows with no significant barriers to dispersal.

8.3.4.2 The terrestrial habitat within the Application Site is suitable for great crested newt as it provides, daytime refugia, foraging areas, hibernation areas and dispersal route ways. These features are typically associated with hedgerows, woodland edges and tall and rank vegetation. Disused field vole colonies or sections of the colonies are notably good habitat for great crested newt (Beebee & Griffiths 2000) and allow the centre of the field to be utilised. Consequently, the occurrence of great crested newt occurring within the Application Site cannot be reliably ruled out.

8.3.4.3 The proposed development could have the following potential impacts upon great crested newts:

- Causing disturbance, injury, or death to great crested newts during the site clearance works.
- Causing disturbance, injury, or death to great crested newts by machinery moving around the Site.
- Causing disturbance, injury, or death to great crested newts by creating temporary refugia and hibernacula during building operations.

8.3.4.4 **Wold Ecology recommends that a great crested newt presence or absence survey is undertaken on all suitable and accessible watercourses within 250m of the Application Site.** The recommended great crested newt surveys must follow survey methods based on the guidance contained within 'Great Crested Newt Mitigation Guidelines' *English Nature*, 2001.

8.3.4.5 The presence/absence survey involve the following elements:

- Undertake four surveys of the site for great crested newt, including all ponds within 250m of proposed development. This includes seasonal ponds.
- An additional two surveys will be required if great crested newts are present. This is in order to assess the population size and is required to support any subsequent Natural England license.
- Submit a report detailing the above and offer a non-technical summary of the legal implications behind any great crested newt presence
- Make any initial recommendations for potential mitigations required in the light of survey and report, especially with regard to the need for a Natural England license.
- The requirement for great crested newt presence or absence surveys should be included on any planning decision. A great crested newt ecologist will be present on site during the initial start of works; in order to provide advice to contractors, managers and implement any subsequent mitigation strategies.

8.3.4.6 Presence/Absence Survey Methodology

8.3.4.6.1 Egg Search - This method involves searching both live and dead submerged vegetation for great crested newt eggs. English Nature (2001) state that 'this is often a very effective method for detecting great crested newt presence'. English Nature (2001) also state that the optimum time for egg searches is between 'April and June'.

8.3.4.6.2 Bottle Trapping - This method involves setting bottle traps (normally made from 2-litre plastic bottles) around the pond margin, and leaving the traps set overnight. A density of one trap per two metres of shoreline is recommended for general survey purposes. This is a particularly reliable method for detecting the presence of great crested newts.

8.3.4.6.3 Torch Survey - This method involves searching for great crested newts at night by shining a torch in the pond. In clear ponds this can be a simple and very effective way of detecting newts.

8.3.4.6.4 Netting - Using a long-handled dip-net, great crested newts can be captured by sampling the area around the pond edge. Netting can be conducted by day or night, but better results may be obtained at night when adult newts are more likely to be in open water. There should be at least 15 minutes of netting per 50m of shoreline.

8.3.4.6.5 English Nature (2001) recommends at least 3 of the 4 field survey methods are undertaken during each visit. Four visits are required to determine the presence/absence of great crested newts, and these must be undertaken during suitable weather conditions and between the months of mid-March to mid-June; with at least two of these visits occurring between mid-April and mid-May.

8.3.4.6.5 eDNA sampling - When great crested newts inhabit a pond, they deposit traces of their DNA in the water as evidence of their presence. By sampling the water, analysing these small environmental DNA (eDNA) traces can confirm great crested newt habitation, or establish great crested newt's absence. The water samples submitted for eDNA analysis to the protocol stated in DEFRA WC1067 (Latest Amendments).

Survey timetable

Method.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Egg search.												
Bottle trapping.								(L)	(L)			
Torch survey.								(L)	(L)			
eDNA												
Refuge search.												

Most effective | Less effective | Not effective | Larvae search (L)

8.3.4.7 If great crested newts are present, consideration will be given to enhancements of terrestrial and aquatic habitats within and adjacent to the Application Site.

8.4 Birds

8.4.1.1 Birds are afforded various levels of protection and levels of conservation status on a species by species basis. The most significant general legislation for British birds lies within Part 1 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation, it is an offence to, kill, injure or take any wild bird, take, damage or destroy the nest of any wild bird while that nest is in use or being built, take or destroy an egg of any wild bird.

8.4.1.2 Schedule 1 Birds

8.4.1.2.1 Schedule 1 birds are rare or scarce species afforded the same protection as above (8.4.1.1), but also have additional protection under Part 1 of the Wildlife and Countryside Act 1981 (as amended). This further protection protects these species from being intentionally or recklessly disturbed whilst nesting, either at or close to the nest site.

8.4.1.3 Planning consent for a development does not provide a defence against prosecution under this act.

8.4.2 Field Survey Methodology

8.4.2.1 All bird species recorded by either sight, song or call were noted, in addition particular attention was given to key species of conservation concern and which habitat within the Application Site they were recorded using. All active (and disused) nests, territorial, breeding, and foraging birds were recorded in further detail to analyse how breeding birds use the Application Site.

8.4.2.2 The survey followed guidance and methods recommended within *Bird Monitoring Methods, a manual of techniques for key UK species* Gilbert et.al RSPB 1998, *Common Standards Monitoring Guidance for Birds* JNCC 2004 and *Survey Techniques Leaflet 8*.

8.4.2.3 Wold Ecology assessed the site for schedule 1 listed species recorded having bred or attempted to breed in Yorkshire (Wold Ecology, NEYEDC), which have the potential to breed within the Application Site and/or surrounding adjacent local area or breed elsewhere whilst using the Application Site to forage or roost.

8.4.3 Field Survey Results

8.4.3.1 Schedule 1 Listed Birds

8.4.3.1.2 Wold Ecology concludes that the Application Site is of low value to schedule 1 listed species. This is primarily due to the managed/disturbed nature of the Application Site, it is surrounded by hedges and trees, lack of suitable or extensive habitats in the locality and adjacent habitats with no features to support nesting Schedule 1 listed species. None of the trees within or adjacent to the Application contain suitable nesting locations for Schedule 1 Listed Birds.

8.4.3.2 None-schedule 1 birds - breeding birds

8.4.3.2.1 Impacts related to breeding birds are essentially related to the temporary loss of habitat which is utilised by breeding species. Related to this is the risk that birds could be nesting within impacted habitats at the time that construction work is

programmed to start. Of relevance to this project are small passerine species, particularly those associated rank vegetation and hedgerows.

8.4.3.3 None-schedule 1 birds - wintering birds

8.4.3.2.1 The Application Site is not considered to be valuable to wintering birds like wildfowl and waders. The Application Site is too enclosed, with high hedgerows and is bounded by housing and roads causing regular disturbance, reducing the value of the habitat for these species groups, nor is it in close proximity to suitable aquatic habitats. The only impact typically of any relevance to wintering birds are those associated with the temporary loss of food sources. This is principally associated with the loss of sections of hedgerow and scrub which provide a potential source of food to a range of wintering species. However, these habitats are abundant within the wider area and are not thought to be of significant importance to birds.

8.4.4 **Wold Ecology does not recommend any further surveys for birds.**

8.4.5 Biodiversity Gains and Recommendations

8.4.5.1 It is concluded that the Application Site is a suitable habitat for woodland edge and agricultural bird species with various designations. There is nesting potential for a range of birds such as thrushes, finches, wood pigeon *Columba palumbus*, magpie *Pica pica*, dunnock *Prunella modularis* and wren *Troglodytes troglodytes*. Several simple management prescriptions can improve the site for breeding bird species.

8.4.5.2 Any trees, scrub and tall vegetation to be removed should be cleared outside of the bird nesting season (i.e. clearance should be undertaken between mid-September and early February inclusive) or be carefully checked***** by an ecologist to confirm no active nests are present - prior to removal during the summer period. If nesting birds are found during the watching brief, works will need to stop until the young have fledged. Since a number of nests are active, work will need to wait until fledging has occurred, then trees should be removed immediately to avoid other nests being created.

***** Thick and overgrown hedgerows are often difficult to inspect fully and removal of a hedge during the spring/summer period is not recommended.

8.4.5.3 In order to increase nesting opportunities for birds, it is recommended that Schwegler bird boxes are erected throughout the site. Local Authority guidance recommends that 25% of houses within a development should contain a bird box. A summary of recommended bird boxes is listed below:

Name	Description	Number
Schwegler Nest Box 1B	Tree box	2
Schwegler Nest Box 2GR	Tree box	2
Schwegler swift box #16S	Building box for eaves	3

8.4.5.4 Boxes should be placed so that the entrance does not face the prevailing wind, rain and strong sunlight. The sector from north to south east should be used, with south facing boxes positioned in more shaded areas. Boxes should be positioned away from the damp side of the tree trunk, usually told by algae, lichen and moss growth. Boxes should also be angled downwards to stop rain blowing into them.

8.4.5.5 Many species will use boxes at a wide variety of heights however to give the box protection in areas with a lot of human or mammalian predator activity they should be placed approximately 3-4 metres above ground level. A clear flight path should be available to and from the nest box.

8.5 Badgers

8.5.1 Legislation

8.5.1.1 Badgers and their setts are protected under the Protection of Badgers Act 1992, which makes it illegal to wilfully kill, injure or take badgers or to interfere with a badger sett, obstructing access to or any entrance of a sett, causing a dog to enter a sett, disturbing a badger when it is occupying a sett, to dig for a badger, to cruelly ill-treat a badger or to possess or control a live badger. Interference with a badger sett is an offence under Section 3 of the Act. This includes recklessly damaging or obstructing a sett whilst clearing land for development.

8.5.1.2 Due to the sensitive nature of publishing badger information in the public domain, details of the badger survey within this report is restricted.

8.5.2 Field Survey Methodology

8.5.2.1 All features of potential value to badgers are surveyed; including areas of woodland (including plantation), small copses, hedgerows, embankments, and rock outcrops. Well-worn animal paths and footpaths were inspected for badger footprints and links to setts.

8.5.2.2 The surveyor observations included any areas where there were noticeable changes in the topography providing sloping ground into which the badgers could excavate setts. The following field signs will indicate the presence of badgers:

- Badger setts and associated soil excavation
- Badger latrines, dung pits and foraging activity
- Badger prints, hairs and paths
- Evidence of badger

8.5.3 Field Survey Results.

8.5.3.1 No main setts, annexe setts, subsidiary setts or outlier setts were located within 50 metres of the Application Site boundaries or within the Application Site. Badgers have a preference for excavating setts on well drained calcareous grits and upper chalks rather than middle chalks and clays, although exceptions to this rule occur where no similar geology is present. Badgers often show a preference to sett excavation in woodland and scrub. Suitable habitat outside of the Application Site was also extensively searched where accessible.

8.5.3.2 **No further surveys or mitigation are required for badgers.**

8.6 Reptiles

8.6.1 Legislation

8.6.1.1 The legislation relating to the protection of the more common reptiles (adder *Vipera berus*, grass snake *Natrix helvetica*, common lizard *Zootoca vivipara* and slowworm *Anguis fragilis*) in Britain is contained mainly within the Wildlife and Countryside Act (1981) as amended by the Countryside and Rights of Way Act (2000). Their inclusion on Schedule 5 gives 'partial protection' (i.e. only parts of section 9 apply). Under the Act it is an offence to;

- Intentionally (or recklessly) kill or injure commoner reptile species.

8.6.1.2 The less common reptile species such as sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca* have a higher level of protection under the Wildlife and Countryside Act (1981). However, these species will not be present within the Application Site, owing to their restricted southerly British distribution and the lack of suitable habitat.

8.6.1.3 Since its original enactment, the Wildlife and Countryside Act has been subject to many changes (notably via Schedule 12 of the Countryside and Rights of Way Act 2000) and is further protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. These have in particular affected penalties and enforcement. Offences under section 9 of the Act are now 'arrestable'. Enforcement is usually by the Police and less frequently by Natural England. However, section 25(2) of Wildlife and Countryside Act also states that a local authority may institute proceedings. Prosecutions can result in a level five fine (currently £5000) for each offence (and the Act is specific that killing/injuring of each individual animal can constitute a separate offence), the forfeiture of any equipment, etc., used to perpetrate that offence and (under the Countryside and Rights of Way Act 2000) up to six months imprisonment.

8.6.2 Field Survey Methodology

8.6.2.1 No direct observations or field signs of reptiles was recorded on site. A full walkover was undertaken to assess the sites potential to support reptiles.

8.6.3 Field Survey Results

8.6.3.1 The desktop study did not identify any reptile records within 2km of the Application Site. Reptiles are moderately localised in East Yorkshire.

8.6.3.2 The Application Site is considered to be unsuitable for reptiles for the following reasons:

- The Application Site and adjacent habitats are heavily disturbed on a daily basis.
- Reptiles thermoregulate in sheltered locations, predominantly in close proximity to cover such as rank or shrubby vegetation, large rocks, walls, and tree stumps in which they can quickly escape. The Application Site primarily consists of open exposed habitat, with limited and largely insufficient thicker marginal vegetation, making reptiles prone to predation.
- Compost heaps, rotten logs and decaying vegetation provide important breeding, foraging and thermoregulation habitat for slow worm and grass

snake. None of which are present in sufficient quantity within the Application Site.

- Reptiles use cracks, crevices, and small mammal burrows to access underground refugia and hibernacula. These habitat features are limited within the Application Site, reducing the value to reptiles.
- The lack of the above features, with a sufficient depth to remain frost free reduces the potential for reptiles to hibernate within the Application Site.
- Reptiles are typically not very wide-ranging species, instead staying in optimum habitat. Such optimum habitat does not occur within or around the Application Site reducing the likelihood of animals passing through the site.
- This past management is likely to have resulted in the site being sub-optimum for a long-time period, reducing the likelihood of viable populations persisting.
- The open nature of the Application Site leaves reptiles open to predation from key predators including crows, kestrels, hedgehogs and foxes.
- The site is small, surrounded by disturbed land and fragmented from optimum reptile habitat in the wider area.

8.6.4 **Wold Ecology does not recommend any further surveys for reptiles.**

8.7 Hedgehog

8.7.1 Legislation

8.7.1.1 Although the Hedgehog *Erinaceus europaeus* only receives partial protection under the Wildlife and Countryside Act 1981 (as amended), its numbers have declined dramatically over the past two decades, resulting in the suggested proposal of upgrade to a higher level of protected status. The British population has declined by 25% over the past 10 years. The reasons for the decline are thought to be complex but include the loss of hedgerows and permanent grasslands as well as agricultural intensification.

8.7.2 Field Survey Methodology

8.7.2.1 All features of potential value to hedgehogs are surveyed; including areas of thick vegetation, outbuildings, lawns, grassland, scrub, woodland, and hedge bases. Evidence of breeding nests, hibernation nests and loafing nests were searched for in areas of suitable cover.

8.7.2.2 Well-worn animal paths, pool edges and footpaths were inspected for hedgehog footprints. Open areas were inspected for hedgehog droppings, particularly amenity grassland. Additionally, the surrounding road system was surveyed for road casualties.

8.7.2.3 The following field signs will indicate the presence of hedgehogs:

- Nests within dense vegetation
- Hedgehog droppings and prints
- Road causalities.

8.7.3 Field Survey Results.

8.7.3.1 No active or unused hedgehog nests were found within the Application Site. Most of the Application Site is too open to support nesting behaviour, although the hedgerow bases offer suitable habitat.

8.7.4 Biodiversity Gains and Recommendations

8.7.4.1 Care must be taken whilst carrying out vegetation clearance, or strimming. A thorough check of the vegetation prior to removal will help ensure that no hedgehogs are injured or killed during development works. Sleeping hedgehogs frequently suffer severe injuries from strimmers.

8.7.4.2 Avoid setting fire to piles of vegetation unless they have been turned, checked or moved immediately prior to burning. Hedgehogs often get killed or injured in fires during vegetation removal ad during early November.

8.7.4.3 Encouraging thick hedgerow bases and areas of rough grassland will offer good hedgehog habitat within the study area. Hedgehogs favour lawned grassland in close proximity to rough grassland for foraging where they can access soil invertebrates on evenings.

8.7.4.4 A number of hedgehog houses should be positioned around the site within hedge bases or adjacent woodland. These will provide important breeding and hibernation sites for hedgehogs within the local area. Boxes should be sited out of direct sunlight with the entrance facing away from prevailing winds, in or under thick vegetation. The boxes should be situated away from busy roads or areas of high disturbance.

8.7.4.5 Providing connectivity between habitats by leaving gaps below fences, gates and walls will allow hedgehogs access in and out of the site. Hedgehog holes must be created in all partition fences, allowing free movement between gardens. Perimeter boundary fencing will include a hedgehog hole every 20m.

9.0 HABITATS APPRAISAL

9.1 Biodiversity Action Plans (BAP) Habitats of Principal Importance for the Conservation of Biological Diversity

9.1.1 In 1995, 'Biodiversity: The UK Steering Group Report' was published, which aimed to conserve and enhance biological diversity within the UK, including action plans for 38 key habitats and for 402 of our most threatened species. These plans describe the status of each habitat and species, outline the threats they face, set targets and objectives for their management, and propose actions necessary to achieve recovery. The Biodiversity Action Plans (BAP) have recently been updated, new ones added, and others removed, so there are numerous habitats that have been listed as priorities for conservation action. A list of these UK BAP species and habitats can be found at http://jncc.defra.gov.uk/page-5706

9.1.2 In addition, there are approximately 150 Local Biodiversity Action Plans (LBAP), normally at county level. These plans usually include actions to address the needs of the UK priority habitats and species in the local area, together with a range of other plans for habitats and species that are of local importance or interest.

9.1.3 In summary, none of the following UKBAP Habitats (which meet the UKBAP Habitat criterion) were recorded on site:

UK BAP broad habitat.	UK BAP priority habitat.	Habitat present within the Application Site.
Rivers and Streams	Rivers	**N**
Standing Open Waters and Canals	Oligotrophic and Dystrophic Lakes	**N**
	Ponds	**N**
	Mesotrophic Lakes	**N**
	Eutrophic Standing Waters	**N**
	Aquifer Fed Naturally Fluctuating Water Bodies	**N**
Arable and Horticultural	Arable Field Margins	**N**
Boundary and Linear Features	Hedgerows	**N**
Broadleaved, Mixed and Yew Woodland	Traditional Orchards	**N**
	Wood-Pasture and Parkland	**N**
	Upland Oakwood	**N**
	Lowland Beech and Yew Woodland	**N**
	Upland Mixed Ashwoods	**N**
	Wet Woodland	**N**
	Lowland Mixed Deciduous Woodland	**N**
	Upland Birchwoods	**N**
Coniferous Woodland	Native Pine Woodlands	**N**
Acid Grassland	Lowland Dry Acid Grassland	**N**
Calcareous Grassland	Lowland Calcareous Grassland	**N**
	Upland Calcareous Grassland	**N**
Neutral Grassland	Lowland Meadows	**N**
	Upland Hay Meadows	**N**
Improved Grassland	Coastal and Floodplain Grazing Marsh	**N**
Dwarf Shrub Heath	Lowland Heathland	**N**
	Upland Heathland	**N**
Fen, Marsh and Swamp	Upland Flushes, Fens and Swamps	**N**

	Purple Moor Grass and Rush Pastures	**N**
	Lowland Fens	**N**
	Reedbeds	**N**
Bogs	Lowland Raised Bog	**N**
	Blanket Bog	**N**
Montane Habitats	Mountain Heaths and Willow Scrub	**N**
Inland Rock	Inland Rock Outcrop and Scree Habitats	**N**
	Calaminarian Grasslands	**N**
	Open Mosaic Habitats on Previously Developed Land	**N**
	Limestone Pavements	**N**
Supralittoral Rock	Maritime Cliff and Slopes	**N**
Supralittoral Sediment	Coastal Vegetated Shingle	**N**
	Machair	**N**
	Coastal Sand Dunes	**N**
Marine Habitats		**N**

9.2 Hedgerows

9.2.1 Legislation

9.2.1.1 **Permission should be granted from the planning authority prior to removing a hedge and new hedgerows should be planted to compensate for the hedge removal – if applicable.**

9.2.2 UKBAP Habitat criterion

9.2.2.1 A hedgerow is 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 that 20m wide (Bickmore, 2002). 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. All hedgerows consisting predominantly (i.e. 80% or more cover) of at least one woody UK native species are covered by this priority habitat, where each UK country can define the list of woody species native to their respective country. Climbers such as honeysuckle and bramble are recognised as integral to many hedgerows, however they require other woody plants to be present to form a distinct woody boundary feature, as such they are not included in the definition of woody species. The definition is limited to boundary lines of trees or shrubs and excludes banks or walls without woody shrubs on top of them.

9.2.2.2 Based on an analysis of Countryside Survey data, using the threshold of at least 80% cover of any UK native woody species, it is estimated that 84% of countryside hedgerows in GB would be included. Hedgerows are a primary habitat or at least 47 species of conservation concern in the UK, including 13 that are globally threatened or rapidly declining, more than for most other key habitats. They are especially important for butterflies and moths, farmland birds, bats and dormice (where locally present).

9.2.2.3 Since 1945 there has been a continual decline in both the quantity and quality of the UK's native hedgerows either through removal or poor management practices. The Environment Act 1995 introduced an enabling power to protect important

hedgerows in Britain. Land managers are required to consult local authorities before hedgerows can be removed. Article 10 of the EC Habitats Directive requires member states to encourage the management of linear features such as hedgerows in their planning and development policies and with a view to improving the ecological coherence of the Natura 2000 network. This is supported by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which recognises the importance of these features for the migration, dispersal, and genetic exchange of wild species. NPPF further encourages the development of policies for the management of hedgerows.

9.2.2.4 UKBAP targets for hedgerows are:

- Maintain the net extent of hedgerows across the UK
- Maintain the overall number of individual, isolated hedgerow trees and the net number of isolated veteran trees;
- Ensure that hedgerows remain, on average, at least as rich in native woody species
- Achieve favourable condition of 348,000 km (50%) by 2015
- Reverse the unfavourable condition of over-managed hedgerows across the UK by reducing the proportion of land managers who trim most of their hedges annually
- Halt further decline in the condition of herbaceous hedgerow flora in Great Britain by 2010 (and improve their condition by 2015)
- Improve the condition of the hedgerow tree population by increasing numbers of young trees (1-4 years) in Great Britain to 80,000 by 2015 and
- Achieve a net increase in the length of hedgerows of an average of 800 km per year in Great Britain to 2015.

9.2.2.5 The criteria for an important hedgerow are one or more of the following:

- Marks a pre-1850 parish or township boundary.
- Incorporates an archaeological feature.
- Is part of, or associated with, an archaeological site.
- Marks the boundary of, or is associated with, a pre-1600 estate or manor.
- Forms an integral part of a pre-parliamentary enclosure field system.
- Contains certain categories of species of bird, animals or plants listed in the Wildlife and Countryside Act or Joint Nature Conservation Committee (JNCC) publications and includes:
  (a) at least seven woody species, on average, in a 30m length.
  (b) at least six woody species, on average, in a 30m length and has at least three associated features.
  (c) at least six woody species, on average, in a 30m length including a black-poplar tree, or a large-leaved lime, or small-leaved lime, or wild service-tree.
  (d) at least five woody species, on average in a 30m length and has at least four associated features.

9.2.2.6 Runs alongside a bridleway, footpath, road used as a public path, or a byway open to all traffic and includes at least four woody species, on average, in a 30m length and has at least two of the associated features listed at (i) or (v) below. The associated features are:

(i) a bank or wall supporting the hedgerow.
(ii) less than 10% gaps.

(iii) on average, at least one tree per 50m.
(iv) at least three species from a list of 57 woodland plants.
(v) a ditch.
(vi) a number of connections with other hedgerows, ponds or woodland.
(vii) a parallel hedge within 15m.

9.2.2.7 Based on the criteria above, Wold Ecology does not consider the hedgerows within and adjacent to the Application Site to be important UKBAP habitat.

9.2.3 Biodiversity Gains and Recommendations

9.2.3.1 If applicable, hedges should be cleared outside of the bird nesting season (i.e. clearance should be undertaken between mid-September and early February inclusive) or be carefully checked***** by an ecologist to confirm no active nests are present - prior to removal during the summer period. If nesting birds are found during the watching brief, works will need to stop until the young have fledged.

***** Thick and overgrown hedgerows are often difficult to inspect fully and removal of a hedge during the spring/summer period is not recommended.

9.2.3.2 During the construction period, it is important that a root protection exclusion zone is in place adjacent to any hedgerow. This must be at least 5m from the centre of the hedge and must be kept free of plant and storage of building supplies.

9.2.3.3 The hedgerows bounding the site should be kept free of fertilisers, pesticides and development on land within 3m of the hedge centre. The long-term management of these hedges will add to their biodiversity value; the hedge should be cut only once every two or three calendar years and on alternate sides. Cutting the hedge in January will provide maximum quantities of food for birds over winter.

9.2.3.4 A minimum 3m grass margin adjacent to the hedges adjacent within the Application Site should be encouraged and allowed to provide rough grassland dispersal routes and habitat for small mammals. The grassland should be cut during late summer (August/September) with all cuttings should be removed from the site to stop soil enrichment and the smothering of less competitive species of herb. The grassland should be cut every 2-3 years, as part of the management program on a 2-3-year rotation, to avoid scrub encroachment. The grassland margins should be topped at 12cm to encourage tussocks.

9.2.3.5 New hedgerows should comprise:

• Hawthorn	*Crataegus monogyna*	25%
• Blackthorn	*Prunus spinosa*	20%
• Holly	*Ilex aquifolium*	5%
• Hazel	*Corylus avellana*	10%
• Field Maple	*Acer campestre*	10%
• Crab Apple	*Malus sylvestris*	10%
• Dog rose	*Rosa canina*	10%
• Guelder rose	*Viburnum opulus*	10%

9.3 Trees

9.3.1 Any trees to be retained should be protected by barriers erected following guidelines given in BS5837:2012 "Trees in Relation to Construction". English Nature (2000) recommends that 'an exclusion zone of 15 times the diameter of the tree at breast height is created'. This will protect the roots from compaction and physical damage whilst protecting the tree from fertilizers and chemical applications. The latter can have a detrimental effect on the tree's relationship with lichens and mycorrhizal fungi. Root protection zones should be free of plant, storage of building sundries and excavation works should be limited where possible; this will help preserve the life of the trees.

10.0 BIBLIOGRAPHY

Andrews, H., *et al*, (2013). *Bat Tree Habitat Key*. AEcol, Bridgewater.

Arntzen, J.W. & Teunis, S.F.M (1993). *A six-year study on the population dynamics of the crested newt (Triturus cristatus) following the colonisation of a newly created pond.* Herpetological Journal 3: 99-110.

Baker, J., Beebee, T., Buckley, J., Gent, T. and Orchard, D. (2011). *Amphibian Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth.

Beebee. T., & Griffiths. R., (2000), *Amphibians and Reptiles*, Harper Collins.

Chinery, M., (2007), *Insects of Britain and Western Europe*, A & C Black.

Chinery, M., (2011), *Britain's Plant Galls*, Wild Guides.

Cramp, S. and Simmons, K.E.L., (1980), *The Handbook of the Birds of Europe the Middle East and North Africa, The Birds of the Western Palaearctic.* (eds.), 1, 2, 3, 4, 5, 6, 7, 8, 9, Oxford University Press.

Dietz, C., Helversen, O.V., & Nill, D., (2009), *Bats of Britain, Europe & Northwest Africa*. A & C Black.

Entwhistle, A.C., Harris, S., Hutson, A.M., Racey, P.A., Walsh, A., (2001). *Habitat Management for Bats - A guide for land managers, land owners and their advisors*. JNCC.

Ferguson-Lees, J., Castell, R., & Leech, D., (2011) *A Field Guide to Monitoring Nests*, BTO.

Gent, T., & Gibson, S., (2003), *Herpetofauna Workers' Manual*. Pelagic publishing.

Gilbert G., Gibbons D.W. & Evans J. (1998) B*ird Monitoring Methods: A manual of techniques for key species*, RSPB, Sandy.

Gregory R., D., Wilkinson N., I., Noble D., G., Robinson J., A., Brown A., F., Hughes J., Procter D., A, Gibbons D., W. and Galbraith C., A., (2002), *The population status of birds in the United Kingdom, Channel Islands and Isle of Man: an analysis of conservation concern 2002–2007*. British Birds 95: 410–450.

Greenhalgh, M., & Ovenden, D., (2007), *Freshwater Life; Britain and Northern Europe*. Harper Collins.

Habitats Directive. (1994) European Commission.

Harris, S., & Yalden, D.W., (2008), *Mammals of the British Isles, Handbook, 4th Edition*. The Mammal Society.

Jehle, R., Thiesmeier, B., & Foster, J., (2011), *The Crested Newt a dwindling pond-dweller*, Laurenti-Verlag (Germany).

JNCC, (2010), *Handbook for Phase 1 habitat survey - a technique for environmental audit*.

Johnson, O., & More, D., (2004), *Collins Tree Guide*, Harper Collins.

Langton, T, Beckett, C, & Foster, J, (2001), *Great Crested Newt Conservation Handbook*. Froglife.

Lever, C., (2009), *The Naturalized Animals of Britain and Ireland*, New Holland Publishers (UK) Ltd.

Macdonald, D., & Barrett, P., (1993), *Mammals; Britain and Europe*, Harper Collins.

Mitchell-Jones A.J. (2004). *Bat Mitigation Guidelines*, English Nature, Peterborough.

Mather, J., (1986). *The Birds of Yorkshire*. Christopher Helm Publishers Ltd.

Natural Area Profile. English Nature, 1997.

Protection of Badgers Act. 1992.

Roper, T.J., *Badger*, New Naturalist, Harper Collins.

Streeter, D., Hart-Davies, C., Hardcastle, A., Cole, F., & Harper, L., (2009), *Collins Flower Guide*, Harper Collins.

Svensson, L., (2009) *Collins Bird Guide: The most complete guide to the birds of Britain and Europe*, 2nd Ed., Harper Collins.

The Wildlife and Countryside Act, HMSO. Anon, 1981.

Tranche 2 Action Plans: Terrestrial and Freshwater Habitats. UK Biodiversity Group, 1998. Crown Copyright.

Wembridge, D., (2012), *Urban Mammals a concise guide*, Whittet Books Ltd.

Williams, J., (2010), *The Otter*, Merlin Unwin Books.

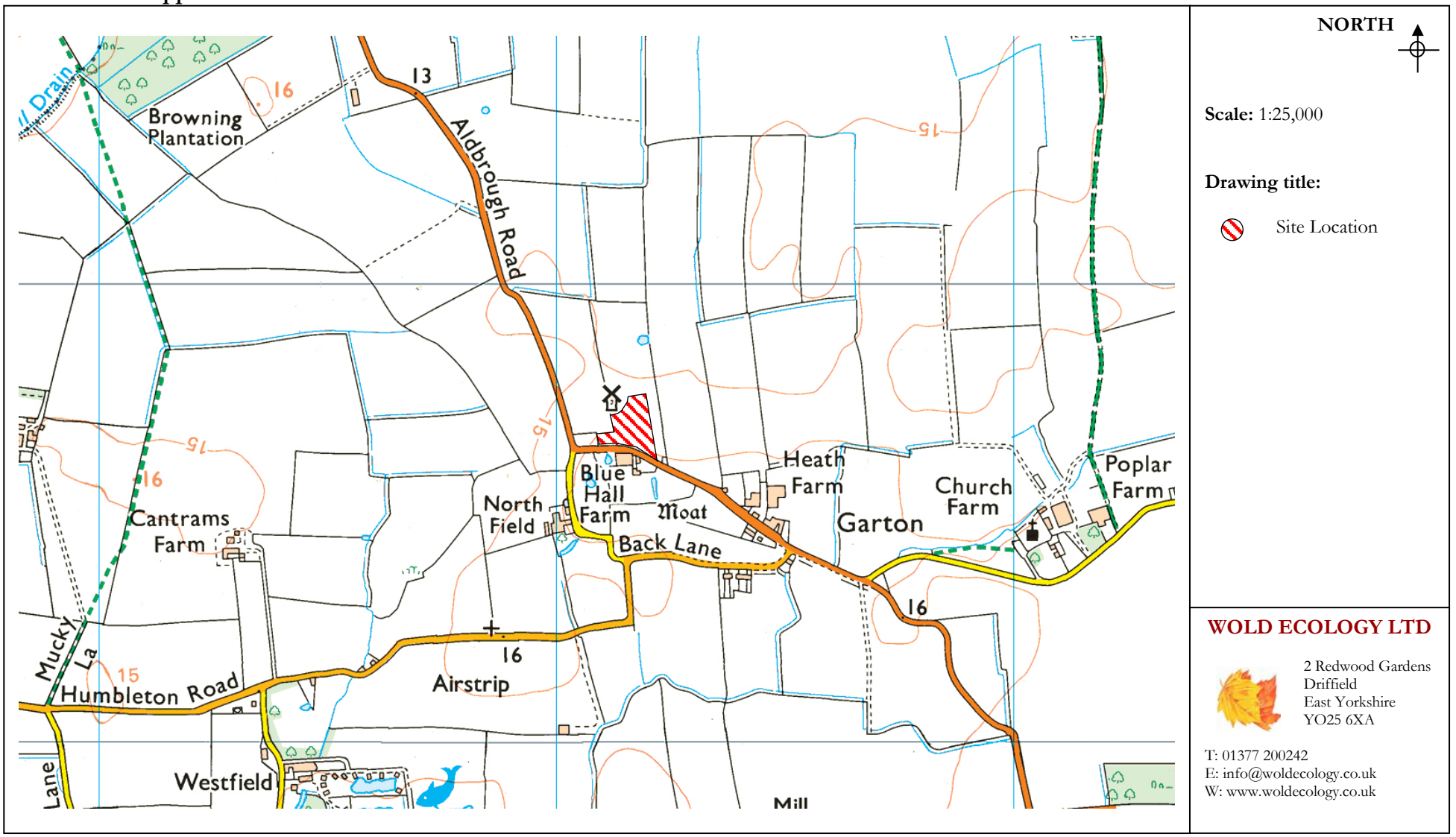
http://www.english-nature.org.uk/citation/citation_photo/1003238.pdf. 1984

http://www.ukbap.org.uk/UKPlans.aspx?ID=7

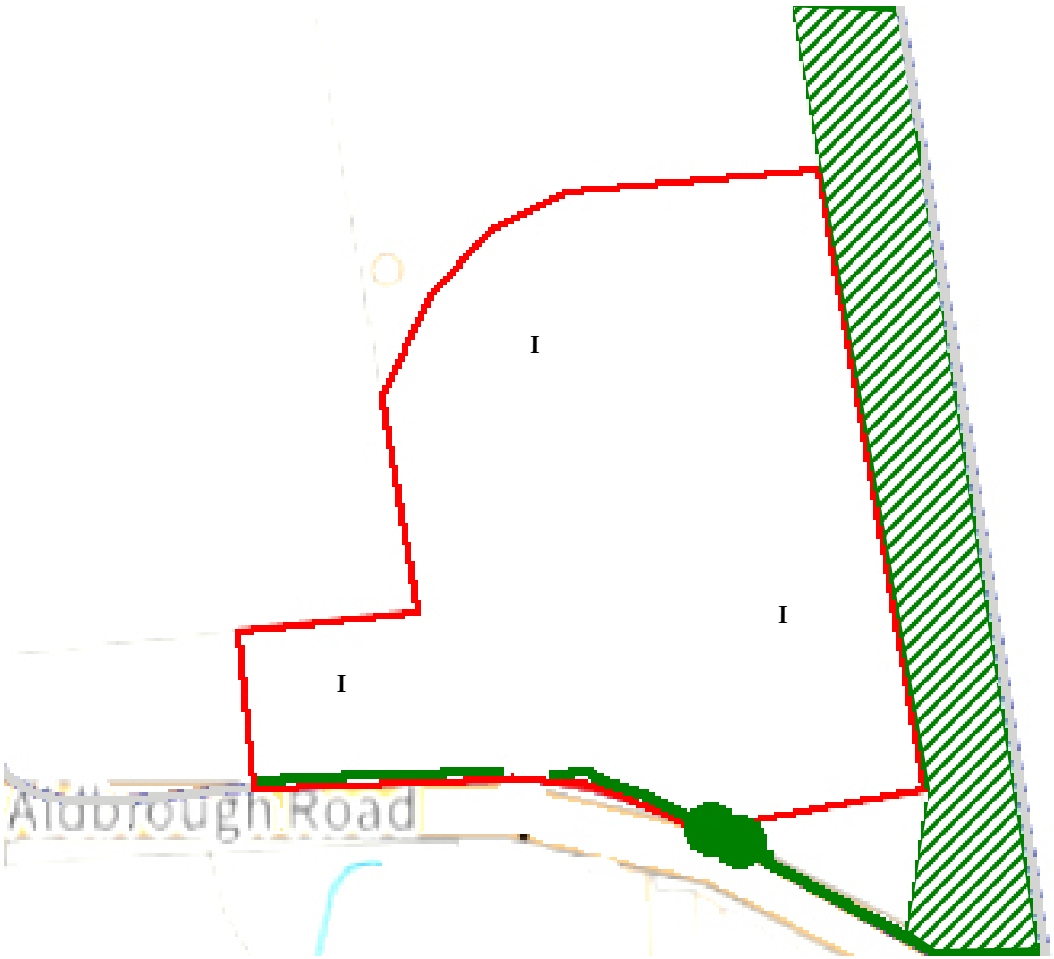
http://www.natureonthemap.org.uk/identify.aspx

11.0 APPENDICES

11.1 Appendix 1



11.2 Appendix 2



NORTH

Not to Scale

Drawing title:
Phase 1 Habitat Map

	Broadleaved plantation
I	Improved grassland
	Hedgerow with trees
	Application Site boundary

WOLD ECOLOGY LTD

2 Redwood Gardens
Driffield
East Yorkshire
YO25 6XA

T: 01377 200242
E: info@woldecology.co.uk
W: www.woldecology.co.uk

11.3 Appendix 3 – Summary of desktop study

Organisation.	Response Summary.	Date.
Natural England.	Local designations.	September 2022
Natural England.	UKBAP species and habitats within 2 km.	September 2022
North and East Yorkshire Ecological Data Centre.	Species lists within 2 km.	September 2022
www.magic.gov.uk	European Protected species licenses within 2km.	September 2022
Wold Ecology network.	Species lists within 5 km of the Application Site.	2006 – to present day.

11.4 Appendix 4 - Protected Species Legislation

The following provides background to the current legislation in England - for full details reference should be made to the relevant legislation. A number of wild animals are classified as Protected Species as they are protected by various pieces of legislation. The most commonly encountered Protected Species of animal are listed in the table below. This table summarises which sections of legislation each species is protected by and the legislative text is provided on the following pages.

Legislation	Schedule 5 Wildlife and Countryside Act 1981 (As amended) Part 1							EPS	PBA
	S1 (1)	S1 (4 & 5)	S9 (1)	S9 (2)	S9 (4)(a)	S9 (4)(b)	S9 (5)		
Adder V*ipera berus*			✓*				✓		
Common lizard *Zootoca vivipara*			✓*				✓		
Grass snake *Natrix helvetica*			✓*				✓		
Slow worm *Anguis fragilis*			✓*				✓		
Smooth snake *Coronella austriaca*			✓	✓	✓	✓	✓	✓	
Sand lizard Lacerta agilis			✓	✓	✓	✓	✓	✓	
Great Crested Newt *Triturus cristatus*			✓	✓	✓	✓	✓	✓	
Natterjack Toad *Epidalea calamita*			✓	✓	✓	✓	✓	✓	
All UK bats *Chiroptera*			✓	✓	✓	✓	✓	✓	
Water vole *Arvicola amphibious*			✓	✓	✓	✓	✓		
Otter *Lutra lutra*			✓	✓	✓	✓	✓	✓	
Dormouse *Muscardinus avellanarius*			✓	✓	✓	✓	✓	✓	
Badger *Meles meles*									✓
Red Squirrel *Sciurus vulgaris*			✓	✓	✓	✓	✓		
Pine Marten *Martes martes*			✓	✓	✓	✓	✓		
Scottish Wildcat *Felis silvestris*			✓	✓	✓	✓	✓	✓	
White-clawed crayfish *Austropotamobius pallipes*			✓				✓		
All Nesting birds	✓								
Specific Nesting birds i.e. Barn Owl, Black Redstart	✓	✓							

S = Section
() = Paragraph
EPS = European Protected Species i.e. listed under Regulation 40 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
PBA = Protection of Badgers Act 1992
*** = Only part of this section**

Legislative Text

Wildlife and Countryside Act 1981 (as amended)

Since its original enactment, the Wildlife and Countryside Act has been subject to many changes (notably via Schedule 12 of the Countryside and Rights of Way Act 2000). These have in particular affected penalties and enforcement. Offences under section 9 of the Act are now 'arrestable'. Enforcement is usually by the Police and less frequently by Natural England. However, section 25(2) of Wildlife and Countryside Act also states that a local authority may institute proceedings. Prosecutions can result in a level five fine (currently £5000) for each offence (and the Act is specific that killing/injuring of each individual animal can constitute a separate offence), the forfeiture of any equipment, etc., used to perpetrate that offence and (under the Countryside and Rights of Way Act 2000) up to six months' imprisonment.

The Wildlife and Countryside Act 1981 (as amended), transposes into domestic law the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention). It is an offense under the various sections of Part 1 of the Act to -

S.1 (1) intentionally kill, injure, or take any wild bird or their eggs or nests.

S.1 (4) intentionally or recklessly kill, injure, or take any wild bird listed on Schedule 1 of the Act, or their eggs or nests (special penalties apply if convicted) (For a full list of Schedule 1 bird species see the full text of the Wildlife and Countryside Act 1981 [as amended])

S.1(5) (a) disturb any wild bird listed on Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or

(b) disturb dependent young of such a bird

S.9 (1) intentionally or recklessly kill, injure or take any wild animal included in Schedule 5 (certain reptiles are only protected from killing and injuring);

S.9 (2) be in possession or control of any live or dead wild animal included in Schedule 5 or any part or derivative;

S.9 (4) (a) intentionally or recklessly damage or destroy, or obstruct access to, any structure or place used by a Schedule 5 animal for shelter or protection;

S.9 (4) (b) disturb any such animal while it is occupying such a structure or place which it uses for that purpose

S.9 (5) (a) sell, offer for sale, possess or transport any live or dead wild animal included in Schedule 5 for the purpose of sale or any part or derivative;

S.9 (5) (b) advertise for buying or selling such things.

European Protected Species (EPS)

EPS and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. These Regulations transpose Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (EC Habitats Directive) into national law.

A person who—

(a) deliberately captures, injures or kills any wild animal of a European protected species,

(b) deliberately disturbs wild animals of any such species,

(c) deliberately takes or destroys the eggs of such an animal, or

(d) damages or destroys a breeding site or resting place of such an animal, is guilty of an offence.

For the purposes of paragraph (b), disturbance of animals includes in particular any disturbance which is likely—
(a) to impair their ability—
(i) to survive, to breed or reproduce, or to rear or nurture their young, or
(ii) in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
(b) to affect significantly the local distribution or abundance of the species to which they belong.

(However, please note that the existing offences under the Wildlife and Countryside Act, which cover obstruction of places used for shelter or protection (for example, a bat roost), disturbance and sale, still apply to EPS.)

These actions can be made lawful through the granting of licenses by the appropriate authorities, e.g. Natural England. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on the wild population of the species concerned.

Protection of Badgers Act 1992 (PBA)

The main legislation protecting badgers is the Protection of Badgers Act 1992. This Act consolidates all previous legislation including the Badgers Act 1973 (as amended) and the Badgers (Further Protection) Act 1991. Under the 1992 Act it is an offence to:

- destroy a sett
- interfere with a badger sett by damaging a sett or any part thereof
- obstruct access to a sett
- disturb a badger while occupying a sett
- wilfully kill, injure, take or attempt to kill, injure or take a badger;
- dig for a badger
- possess a dead badger or any part of a badges
- cruelly ill-treat a badger
- use badger tongs in the course of killing, taking or attempting to kill a badger
- sell or offer for sale or control any live badger
- mark, tag or ring a badger
- cause a dog to enter a sett

The 1992 Act defines a badger sett as: "any structure or place which displays signs indicating current use by a badger". Since development operations may take place over a protracted period, Natural England recommends that licences be sought for developments that may affect seasonally–used setts as well as main setts. Natural England considers a good guide to be that if a sett has shown signs of occupation within the past twelve months it is considered active.

The Protection of Badgers Act 1992 allows for licences to be issued for a number of purposes, including development under the Town and Country Planning Act 1990 and to prevent serious damage to property. Licences to interfere with badger

setts or disturb badgers for development are issued by the Government's statutory nature conservation agencies, e.g. Natural England.

11.5 Appendix 5 - Staff Profiles

Field Surveyor Profile – Chris Toohie M Sc., MCIEEM.

Job title: Director.

Career Summary.

- Chris has worked in the environmental sector for all of his working life. He is an experienced and competent site manager with well-developed organisational skills and a proven ability to deal with a variety of situations in pressurised and challenging environments. As the former site manager of Millington Wood SSSI, Beverley Parks Millennium Orchard Local Nature Reserve and three reserves on the Flamborough Head Heritage Coast/SSSI, Chris has gained an understanding of the functioning of local government and the skills to operate within such structures and multicultural environments. Chris completed over 14 years within local authority countryside services.
- Chris is currently heavily involved in local projects and has volunteered his time and resources to benefit local conservation projects that include The Wolds Barn Owl Study Group, Ryedale Folk Museum Cornflower Project, BTO, Lower Derwent Valley, North Cliff Marsh Flamborough, Butterfly Conservation and apple conservation. As a trustee of Driffield's Millennium Green, Chris has allocated his own time and financial resources to enhance the ecological value of the site.
- Chris is an excellent communicator and his enthusiasm for his work has enabled the successful deliverance of numerous conservation schemes. Chris has been instrumental in raising over £100,000 for environmental and community projects since 2005. These have included grants from Natural England, landfill tax credits and Heritage Lottery funding.

Project Experience.

- Chris has undertaken over 950 bat activity surveys since 2006 including writing and implementing over 135 Natural England bat development licenses.
- Chris is one of 221 (January 2022) Natural England Registered Ecological Consultants able to hold a Low Impact Bat Class Licence (BLICL). Chris is the only Natural England Registered Ecological Consultant in East Yorkshire/Hull/Lincolnshire and one of a small number of Registered Consultants in North Yorkshire. The BLICL can reduce time and costs in the long term if roosting bats are found.
- Phase 1 ecology surveys and Preliminary Ecological Appraisals have included National Nature Reserves, SSSI's, local wildlife sites and urban sites; specifically, Chris has undertaken ecological surveys at Raincliffe Wood SSSI, sections of Hadrian's Wall and numerous English Heritage Castles.
- Contracts have included Natural England, English Heritage, East Riding of Yorkshire Council, Scarborough Borough Council, NPS London, Hull City Council, Gateway, Sewell Group, Barratt Homes, Yorvik Homes, North York Moors National Park Authority, Pensana PLC, IMS Windpower, Kier

London Ltd, NHS, Castle Howard Estates, Cemex, Stroma, Bolton Abbey Estates and Pell Frischman.

11.6 Appendix 6 – Identification of Legal and Planning Policy Issues in England

Scope of Assessment

The first step is to identify any biodiversity features found on the site that are subject to legal or policy controls, as follows:

Designated Sites

The location of the site is compared to the distribution of sites with a statutory or non-statutory nature conservation designation using information derived from the desk study. Consideration is given to designated sites that could be affected directly or indirectly by the proposed development.

Habitats outside Designated Sites

The habitats known to occur on the site are compared to those which receive some protection, in law or policy, outside of designated sites i.e. hedgerows, uncultivated land and semi-natural areas, habitats listed as Priorities in the UKBAP, habitats listed as Habitats of Principal Importance for the Conservation of Biodiversity by the Secretary of State and habitats listed as requiring action in the Local Biodiversity Action Plan.

Ancient Woodland

The ancient woodland inventory is checked to determine whether any known ancient woodland occurs either on the site or nearby.

Protected Species

The species known to occur on the site as a result of the desk study and Phase 1 habitat survey are compared with those listed in nature conservation legislation i.e. the Wildlife and Countryside Act 1981, as amended, and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

In addition, the species known to occur on the site as a result of the desk study and Phase 1 habitat survey are compared with those listed in animal welfare legislation, i.e. the Badgers Act 1992 and the Wild Mammals (Protection) Act 1996.

Biodiversity Action Plan Priority Species

The species known to occur on the site are compared with those listed as Priorities in the UKBAP, Species of Principal Importance for the Conservation of Biodiversity by the Secretary of State or requiring action in the Local Biodiversity Action Plan.

Other Species of Conservation Concern

The species known to occur on the site are compared with other nature conservation listings, such as red data books.

Invasive Plant Species

The species of plant present on the site are compared with those listed by government agencies as invasive non-natives, with particular attention given to those listed in the Wildlife and Countryside Act.

Review of Legislation and Policy

If any of the above are found to occur on or near the site and are likely to be affected by the development in any way, the relevant legislation and planning policy (including national, regional, county and borough policies) are examined to determine whether the proposed development is compliant.

Ecological Enhancement

Planning policy generally requires new developments to be enhanced for biodiversity. The existing proposals are considered to determine whether biodiversity enhancements are offered and whether they are adequate to meet the policy requirements. Again, national, regional, county and borough policies are considered.

Identification of Potential Further Ecological Issues

Further ecological issues are those which cannot be resolved during the desk study, extended phase 1 habitat survey and preliminary ecological appraisal for any reason, including the following:

- The development is near a designated site and consultation with the relevant regulator is required to determine whether further assessment is required;
- Suitable habitat is present on or near the site for a protected species/species of conservation concern and specialist survey techniques are required for their detection;
- Suitable habitat is present on or near the site for a protected species/species of conservation concern and the extended phase 1 habitat survey and preliminary ecological appraisal was not undertaken at a suitable time of year for their detection;
- A protected species/species of conservation concern was found on or near the site but further information on population size or distribution is required to resolve any legal and planning policy issues (such as obtaining licences).

Discussion of issues raised by 3rd parties, e.g. reports of protected species from the site by local people, may also be discussed under this heading.

The desk study is used as a guide to the protected species/species of conservation in the local area, however, the list is not taken to be exhaustive, and it is borne in mind that some species may no longer occur in the locality.

No attempt is made to evaluate the importance of the site for species not yet confirmed to be on or near the site, nor to discuss the implications for the development if the species were to be found on the site.

No attempt is made to evaluate the importance of the site for species not yet confirmed to be on or near the site, nor to discuss the implications for the development if the species were to be found on the site.

11.7 Appendix 7 - HSI Scoring.

11.7.1 The HSI for great crested newts is a measure of habitat suitability but is not a substitute for newt surveys. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores (The Herpetological Conservation Trust, 2008).

11.7.2 The HSI is a geometric mean of ten suitability indices (SI):
HSI = (SI1 x SI2 x SI3 x SI4 x SI5 x SI6 x SI7 x SI8 x SI9 x SI10)1/10

- The ten suitability indices are scored for a pond, in the field and from map work.
- The ten field scores are then converted to SI scores, on a scale from 0.01 to 1 (0.01 instead of 0, because multiplying by 0 reduces all other SI scores to 0).
- The ten SI scores are then multiplied together.
- The tenth root of this number is then calculated (X)1/10

11.7.3 The field scores were collected by Chris Toohie. Some of the field scores are categorical, some are numerical. The numerical field scores are converted to SI scores by reading off the values from graphs produced by Oldham *et al.* (2000). Full details of the HSI rationale and guidance can be obtained from the Herpetological Conservation Trust.

11.7.4 **HSI Results**

Geographical location – **SI 1**
All ponds are located in Zone A
Pond 1 = 1.0

Pond area – **SI 2**
The approximate size of the pond is shown in brackets.
Pond 1 (600m^2) = 1.0

Pond drying – **SI 3**
Pond 1 (Never Dries) = 0.9

Water quality – **SI 4**
Pond 1 (Moderate) = 0.67

Shade – **SI 5**
Pond 1 (20%) = 1.0

Fowl – **SI 6**
Pond 1 (Absent) = 1.0

Fish – **SI 7**
Pond 1 (Possible) = 0.67

Ponds within 1 km – **SI 8**
Pond 1 (6) = 0.9

Terrestrial habitat – **SI 9**
Pond 1 (Good) = 1.0

Macrophytes – **SI 10**
Pond 1 (70%) = 1.0

Summary of HSI scoring.											
SI	1	2	3	4	5	6	7	8	9	10	Total
Pond 1	1.0	1.0	0.9	0.67	1	1	0.67	0.9	1	1	0.9

11.7.5 Each SI score is multiplied together to give a total. The tenth root of this number is then calculated, consequently, the calculated HSI for a pond should score between 0 and 1.