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Ings Lane, Hibaldstow

PRELIMINARY ECOLOGICAL APPRAISAL

March 2024

	Staff Member	Position
Habitat Survey and Preliminary Ecological Appraisal :	Chris Toohie MSc MCIEEM	Ecologist
Principal Author(s) :	Chris Toohie MSc MCIEEM Abi Catherall MSc	Ecologist

DOCUMENT CHECKING

Revision	Date	Status	Checked
1	15/04/2024	Draft for internal review.	Daniel Lombard B Sc MCIEEM
2	21/04/2024	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.			

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1.0 EXECUTIVE SUMMARY

1.1 In March 2024, Wold Ecology was commissioned by Ongo Homes to undertake a UK Habitat Classification (version 2) and a preliminary ecological appraisal at the field north of Ings Lane, Hibaldstow (national grid reference SE 98426 02744) in North Lincolnshire.

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 an arable field bounded by a hedgerow, located in a rural environment.

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
Proceed with caution, timing constraints	**Breeding Birds**	The site is suitable for nesting birds with various designations. Any hedgerows or tall/dense 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.
Proceed with caution	**Working adjacent to watercourses**	Potential discharge of foul water into the adjacent watercourses should be addressed by Land Drainage Consultant. A working adjacent to watercourses method statement is included in section 9.0.
No ecological constraints.	**Invasive non-native species**	No invasive species recorded on site.
	Bats	No further surveys recommended.
	Badger	
	Great crested newt	
	Reptiles	
	Water vole	
	Otter	
	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.

Impact Assessment **No further assessments**	**EcIA**	No further surveys beyond the desk study and field survey are necessary to allow an assessment of ecological effects and to design appropriate mitigation. There is sufficient information available about the design of the project to allow a full assessment of ecological effects, and no significant ecological effects are predicted.

1.6 This report is valid until **September 2025**. 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 March 2024, Wold Ecology was commissioned by Ongo Homes to undertake a UK Habitat Classification (version 2) and a preliminary ecological appraisal at the field north of Ings Lane, Hibaldstow (national grid reference SE 98426 02744) in North Lincolnshire.

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 **Paragraph 180** of the National Planning Policy Framework (NPPF) states: Planning policies and decisions should contribute to and enhance the natural and local environment by:

(a) protecting and enhancing 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);

(b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;

(c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;

(d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

(e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

(f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

2.4 Habitats and Biodiversity of the NPPF also states :

Paragraph 185 - 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 and

(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.

Paragraph 186 - 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. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

(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 improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Paragraph 187 - 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.

2.5 The Habitats Directive requires Member States to implement two main types of measures. The first relates to the conservation of habitat types and of habitats of species (Articles 3–11 of the Habitats Directive) and involves the designation of protected sites as part of the EU network called Natura 2000.

2.6 The second type of measures concerns the protection of species (Articles 12–16) and applies across their entire natural range within Member States, both inside and outside Natura 2000 sites. Article 12 requires the protection of the animal species listed in Annex IV(a) of the Directive. It addresses direct threats to the species by prohibiting their deliberate capture, killing or disturbance, deliberate destruction or taking of their eggs, or the deterioration or destruction of their breeding sites or resting places. Annex IV(a) encompasses a wide variety of animal species, from large, wide-ranging species, like wolves and bears, to species with very small home ranges, such as butterflies, beetles or amphibians.

2.7 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).

2.8 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.

2.9 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'.

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.
- Biodiversity Net Gain and Condition Assessments.
- Ecological Construction Method Statements and Ecological Enhancements Plans.
- Ecological Clerk of Works.

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

3.3.1 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).

3.3.2 Professional Membership.

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

3.4 A detailed surveyor profile is included in Appendix 3.

3.5 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).

3.6 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 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 UK Habitat Classification survey.
- Preliminary ecological appraisal.

4.2 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.

4.3 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.

4.4 Consultation with local planning ecologists 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 450 Preliminary Ecological Appraisals between 2015 and 2023 for similar sites and schemes; this report format and content within has been accepted by 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.

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

4.6 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.

4.7 A field survey was undertaken at the Application Site on 24th March 2024. During the site visit, the whole of the Application Site and accessible neighbouring land was examined in detail.

Date of each survey visit	Type of survey	Weather
24/03/23	Habitat classification field survey	14°C, 10% cloud. Beaufort 0. No recent rain.

4.8 The habitats within the Application Site were mapped according to the techniques described in the publication *UK Habitat Classification version 2* (UKHab Ltd 2023). The CIEEM 'Guidelines for Preliminary Ecological Appraisal - Second Edition' (December 2017) state that this is an appropriate habitat classification system.

4.9 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.

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

4.11 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).

4.12 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 UK Habitat Classification 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 Invasive Non-Native Species (INNS) are species listed on Schedule 9 of the Wildlife and Countryside Act (1981), for which it is an offence to cause or allow it to grow in the wild. It is not always possible to conclude absence from a preliminary survey alone due to factors including:

- Season.
- Accessibility.
- Recent ground clearance.
- 3rd party attempts to hide evidence or undisclosed treatment programmes.

5.6 However, a UK Habitat Classification 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

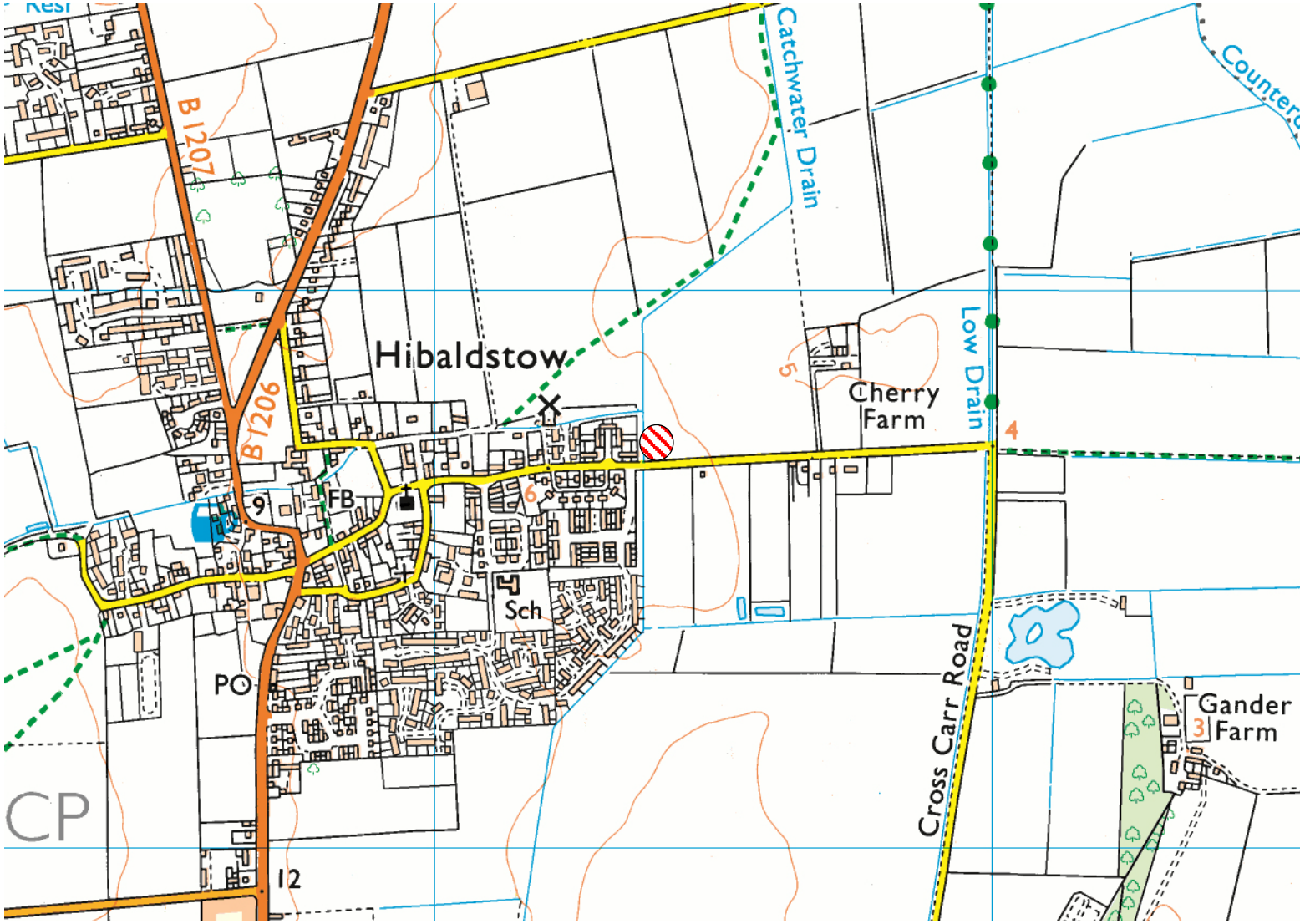
6.1 General description

6.1.1 The Application Site is located on the eastern edge of Hibaldstow village, in a rural location. The Application Site is approximately 0.7ha and is immediately surrounded by arable and housing in association with Hibaldstow village. Habitats within the Application Site comprise part of an arable field bounded by a hedge and a drain.

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 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 site with the wider countryside. In addition, the New River Ancholme (1.5km east) and associated riparian woodlands provide habitat connectivity to 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
- Arable
- Mature private gardens
- Ponds and watercourses
- Grazed pasture
- Traffords Covert
- Railway Plantation
- Counterdike Drain
- Catchwater Drain
- Low Drain
- Highland Drain
- Old River Ancholme Drain
- Thirty Foot Drain
- Carr Drain
- New River Ancholme



NORTH

Scale: 1:25,000

Figure 1: Location Map

Site Location

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6.2 Desktop Study.

6.2.1 Natural England, the Greater Lincolnshire Nature Partnership, 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 Statutory Sites

6.2.3.1 There are no Statutory Sites within 2 km of the Application Site.

6.2.4 Non-statutory Sites

6.2.4.1 The following Non-statutory Sites lie within 2 km of the Application Site (see figure 2):

6.2.4.1.1 Local Wildlife Sites (LWS)

Site Code	Site Name	Distance (m)
1.	Faraway and thirty-foot drains	1620
2.	New River Ancholme	1680

6.2.4.2 The Non-statutory Site 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 Non-statutory Site which is greater than 1.5km. Consequently, the impact to Non-statutory Sites is considered to be negligible.

6.2.5 Natural England Habitat Inventories

6.2.5.1 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).

In Application Site	Site Name	Min Distance (m)
No	Coastal and floodplain grazing marsh	1900
No	Deciduous woodland	1350
No	Rivers	1610

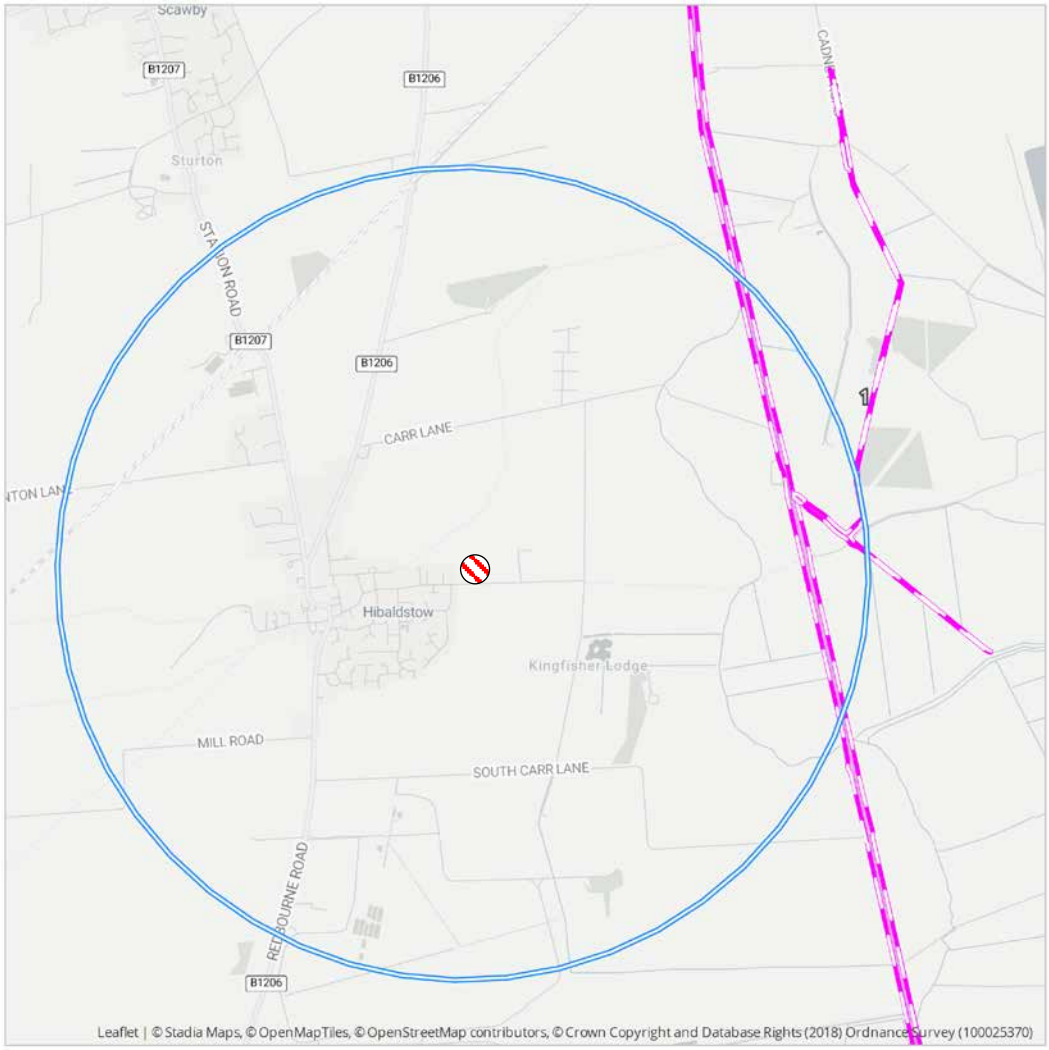
6.2.5.2 The Natural England Priority Habitats will not be impacted on due to the small-scale nature of the proposed development and the distance between the Application Site and the notable habitat, which is greater than 1km. No areas of priority habitat will be damaged or lost as part of the proposed development. Consequently, the impact to the Natural England Priority Habitat is considered to be negligible.

NORTH

Figure 2: Locally Designated Site Map

KEY

Application Site



Space restrictions on the map may result in some sites not being labelled. Please refer to the site citations for details.

Local Wildlife Site

Search area

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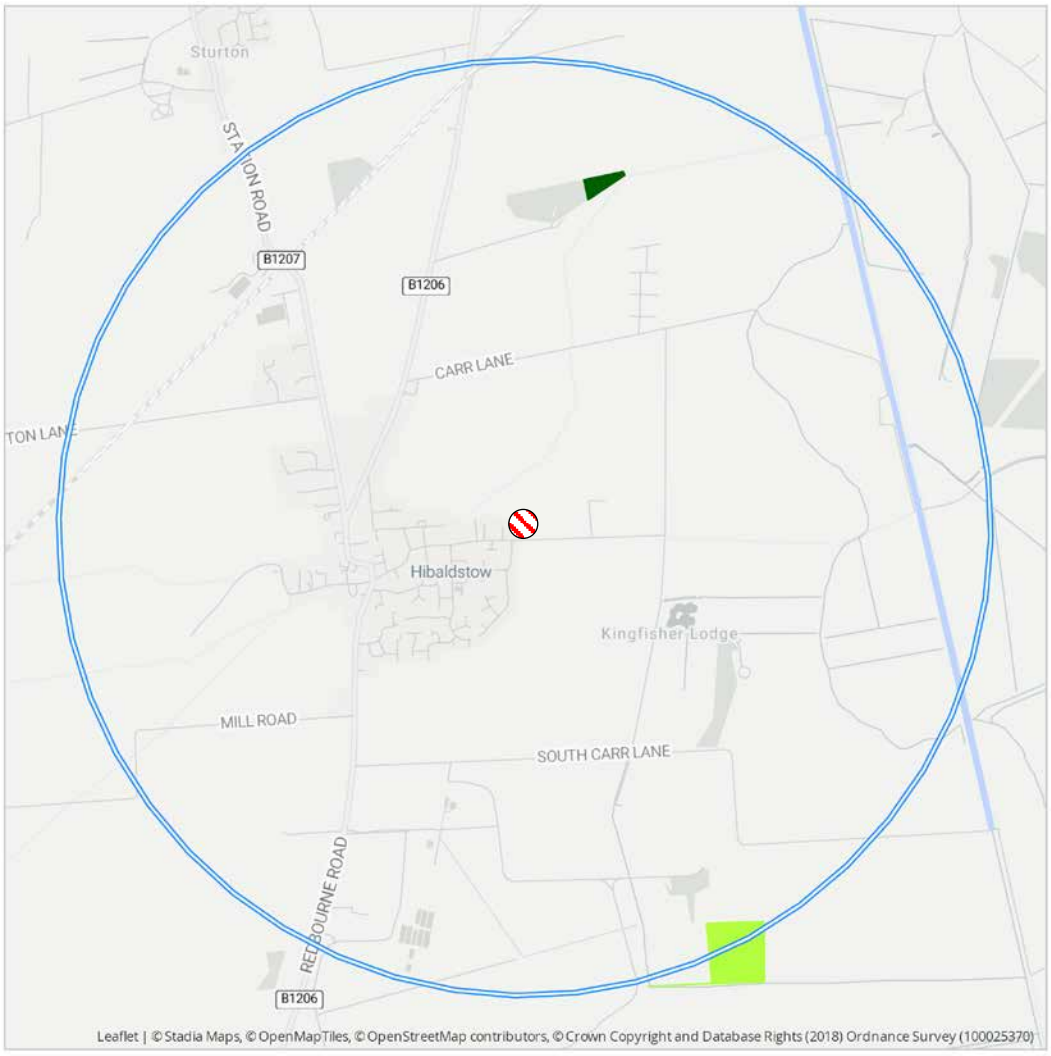
NORTH

Figure 3:Natural England Priority Habitats Map.

KEY

Application Site



Space restrictions on the map may result in some sites not being labelled.

Coastal and floodplain grazing marsh

Lowland mixed deciduous woodland

Rivers

Search area

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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.

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 the Northern Lincolnshire Edge with Coversands Natural Character Area and is summarised below:

6.3.3.1 The Northern Lincolnshire Edge with Coversands National Character Area (NCA) comprises a ridge of Jurassic limestone running north from Lincoln to the Humber Estuary. The scarp slope rises prominently from adjacent low-lying land, forming the Edge or Cliff, and giving panoramic views out, in particular to the west. In the north is a second, lower scarp of ironstone. In the vicinity of Scunthorpe are the Coversands, post-glacial wind-blown sands which have given rise to mosaics of heathland, acid grassland and oak/birch woodland, supporting rare plant and animal communities akin to the Brecklands. Risby Warren, historically used as a rabbit warren, reveals the distinctive formation of inland dunes. Several of these sandy sites are designated as Sites of Special Scientific Interest, along with a number of disused limestone, ironstone and sand extraction sites, which comprise geological exposures alongside calcareous grassland, open water and other semi-natural habitats. At the northern boundary the limestone drops below the River Humber.

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 – GLNP 2024 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 *Plecotus auritus* and common pipistrelle *Pipistrellus pipistrellus* within the surrounding 5km radius of the Application Site (source – GLNP 2024 and Wold Ecology network pers comm). Wold Ecology bat records date from 2006 and include over 2000 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

- A record of great crested newts occurs at Hibaldstow with no location given, this record dates back to 1994 (source – GLNP 2024).
- 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 Natural England great crested newt class survey licence returns within 2km of the Application Site (source – magic.defra.gov.uk).
- 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
River Ancholme	1375m	E
Hibaldstow Counter Drain	1136km	E
source – GLNP 2024 and Wold Ecology network pers comm		

- Water vole *Arvicola amphibious* is recorded within the 2km radius surrounding the Application Site, the closest records are 400m form the Application Site (source – GLNP 2024).
- A water vole survey (Brookes Ecology, 2018) did not identify this species within the adjacent drain.

6.4.5 Otter

- Otter *Lutra lutra* is recorded within the 2km radius surrounding the Application Site (source – GLNP 2024 and Wold Ecology network pers comm).

6.4.6 Reptiles

- There are no reptile records within 2km of the Application Site (source – GLNP 2024 and Wold Ecology network pers comm).

7.0 FIELD SURVEY RESULTS

7.1 The following habitat types were recorded within the Application Site (refer to figure 5):

UK Habitat Classification Habitat (level 3)	Level 4 name	Level 4 Code	Level 5 Name	Level 5 Code	Secondary Habitat Code(s)
Arable and Horticulture	Cereal crops	**c1c**	Winter stubble	**c1c5**	11
Hedgerows	Native hedgerow	**h2a**	Other native hedgerow	**h2a6**	-

NORTH

Not to Scale

Figure 4: UK Habitat Classification Map

c1c5 - winter stubble

h2a6 - other native hedgerow

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7.2 **Arable and Horticulture**

7.2.1 Cereal Crops

7.2.1.1 Winter stubble

7.2.1.2 This habitat dominates the Application Site and comprises former agricultural land that has been used for arable production for at the previous 30 years. The former tilled agricultural land which is likely to have been subject to ploughing (at least annually), sowing, rolling, fertilizer application (organic or inorganic) and treatment with fungicide, herbicide and/or insecticide. Agricultural management like this significantly reduces the overall value of the habitat to flora and fauna, as does the crop monoculture. The soil is evidently loamy, and clay based but does not show any significant areas of standing water The field has not had a crop for two growing seasons.

7.2.1.3 Botanical species where primarily located adjacent to the field boundary and included perennial ryegrass *Lolium perenne*, annual meadow grass *Poa annua*, groundsel *Senecio vulgaris*, false oat grass *Arrhenatherum elatius*, broad-leaved dock *Rumex obtusifolius*, cleavers *Galium aparine*, spear thistle *Cirsium vulgare*, ribwort plantain *Plantago lanceolata,* dandelion *Taraxacum officinale*, stinging nettle *Urtica dioica*, bramble *Rubus fruticosus*, white dead nettle *Lamium Album*, creeping thistle *Cirsium arvensis*, spear thistle *Cirsium vulgare*, cow parsley *Anthriscus sylvestris* and hogweed *Heracleum sphodylium*.

7.2.1.4 All species are common and widespread with a reduced ecological value due to previous management and soil fertility.

7.2.1.5 There is no condition assessment score for this habitat.

7.3 In-tact species poor hedge

Hedge 1			
Location	This hedge forms the southern boundary of the Application Site.		
Height	1.5m	Width	1m
Cross Section	Boxed		
Species composition	Hawthorn *Crataegus monogyna* is the most abundant specie, with elder *Sambucus nigra*, dog rose *Rosa canina* and bramble *Rubus fruticosus* also present. 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 the hedge.		
Management and current damage	Regularly cut, no evidence of coppicing or laying. More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities.		

7.3.1 Condition Assessment.

Attributes and functional groupings (A, B, C, D and E)		Criteria - the minimum requirements for 'favourable condition'	Description	Criterion passed (Yes or No)
Core groups - applicable to all hedgerow types				**Hedge 1**
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	Y
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	N
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Y
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	Y
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Y
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	Y

D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on Archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	Y
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g., excessive hedgerow cutting).	Y

Category	**Category Requirements**	**Metric Score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	✓
Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 and C2 = Moderate condition).	
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 and B2 = Poor condition).	
	Score achieved:	7

7.3.2 The condition assessment is good.

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

- Blackbird *Turdus merula*
- Wren *Troglodytes troglodytes*
- Starling *Sturnus vulgaris*
- Woodpigeon *Columba palumbus*
- Carrion crow *Corvus corone*

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
- Water vole

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 43 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 site had any signs of occupancy and/or bat usage. This took the form of a methodical external search for actual roosting bats and their signs. Specifically, the visual survey involved the following:

8.2.3 Field Survey Results

8.2.3.1 No trees, buildings or other structures with potential to support roosting bats occur within the boundaries of the Application Site.

8.2.4 **Site Status Assessment**

8.2.4.1 As no roost sites are present within the Application Site, the impact to roosting bats within trees and buildings is considered to be **neutral**.

8.2.4.2 Wold Ecology concludes that the immediately adjacent habitats (within the developments zone of influence and up to 50m from the Application Site boundary) could be used by small numbers of commuting and foraging bats. These habitats are not extensive and are similar to surrounding agricultural and urban habitats and consequently, the Application Site and surrounding habitats are not considered to be integral to the favourable conservation status of local bat populations and are considered to have low suitability for commuting and foraging bats.

8.2.4.3 Wold Ecology concludes that habitats within 3km primarily comprise fragmented sub optimum and secondary habitats features which are relatively isolated. The impact to foraging and commuting bats is considered to be **neutral**.

8.2.4.4 Primary and secondary bat habitats in relation to core sustenance zones

Bat species	Primary habitats/features	Secondary habitats
Noctule		Found in a range of habitats foraging in the open or often over trees, pasture and water
Leisler's	Sympathetically managed pasture appears to be a preferred foraging habitat in both Great Britain and Ireland (Shiel and Fairley, 1999; Waters et al., 1999), Use is also made of woodland edges and tree-lined roads (Waters et al., 1999; Russ and Montgomery, 2002).	Drainage channels, lakes, rivers, canals, coniferous forests, parkland
Common pipistrelle	The common pipistrelle bat forages over sympathetically managed grazed pasture and deciduous woodland.	
Soprano pipistrelle	The soprano pipistrelle bat is frequently reported to make particular use of riparian habitat (Davidson-Watts and Jones, 2006; Nicholls and A. Racey, 2006; Lintott et al., 2016	In woodlands edges
Nathusius's pipistrelle	Riparian habitats, large freshwater lakes, estuaries and canals. Broad-leaved & mixed woodland edges and parkland.	Managed gardens and fields around lakes
Whiskered bat	Studies indicate a preference for, mixed or broadleaved woodland, hedgerows, Sympathetically grazed pasture riparian vegetation and wetlands.	Orchards
Brandt's bat	Woodland, particularly damp areas close to water (Taake, 1984).	Sympathetically grazed pasture.
Brown long-eared bat	The species is strongly associated with trees, particularly broadleaved preferring woodland with a cluttered understorey, (Murphy *et al,* 2012)	Will forage in mixed woodland and also forages around trees in more open habitats, including parks, orchards and gardens (Dietz and Keifer, 2016).
Natterer's bat	The species is commonly associated with trees, particularly broadleaved woodland, but also makes use of tree-lined river corridors, trees in parkland, and hedgerows adjacent to pasture (Parsons and Jones, 2003; Smith and Racey, 2008; Zeale et al., 2016).	It also forages over grassland
Daubenton's bat	The species is strongly associated with riparian habitats. It prefers large waterways with abundant woodland in the local environment (Langton et al., 2010) and, at least in upland riverine environments, it appears to select locations with trees on both banks (Warren et al., 2000)	Also forages in woodland
Alcathoe bat	Little evidence on its habitat preferences in Great Britain. However, the species is usually captured in areas with extensive semi-ancient woodland ((Jan et al., 2010; Daniel Whitby, pers. comm.); Daniel Whitby, pers. comm.).	No specific needs known

8.2.5 Biodiversity Gains and Recommendations

8.2.5.1 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:

- 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.

8.2.5.2 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.

8.2.5.3 Wold Ecology recommends that at least 3 bat boxes are sited on 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.

8.2.6 Lighting

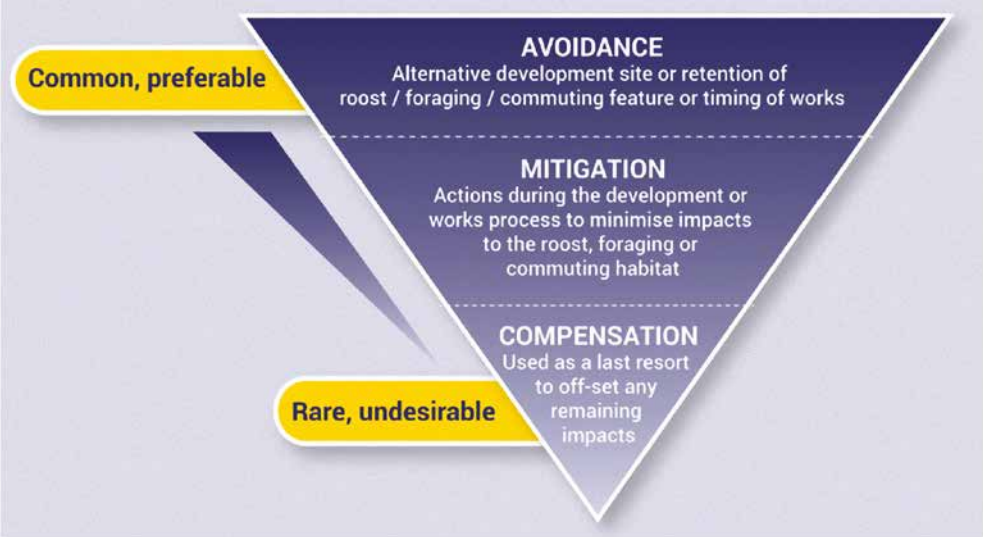
8.2.6.1 Illuminating a bat roost can cause disturbance and this may result in the bats deserting the roost, or even becoming entombed within it. Lighting would therefore be considered an obstruction under the legislation protecting bats and their roosts. Light falling on a roost access point will at least delay bats from emerging, and this shortens the amount of time available to them for foraging.

8.2.6.2 In addition to causing disturbance to bats at the roost, artificial lighting can also affect the feeding behaviour of bats. Many night-flying species of insect that bats hunt are attracted to light, especially those light sources that emit an ultraviolet component (Light Emitting Diodes (LEDs) have removed this) or have a high blue spectral content (this can include LEDs).

8.2.6.3 The slower-flying, broad winged species (relevant to the north of England) have been shown to avoid commuting and foraging routes illuminated with a variety of different street luminaires such as:

- Brown long-eared.
- Myotis species (which include Brandt's, whiskered, Daubenton's and Natterer's).

8.2.6.4 The mitigation hierarchy applies to lighting design: impacts to biodiversity should be avoided in the first instance through design and where this has been clearly demonstrated not to be possible, appropriate mitigation needs to be put in place. Compensation is the least desirable option, so all other avenues should first be explored and ruled out. In parallel, opportunities to design lighting betterment for biodiversity should be sought wherever possible. Subsequently, planning authorities should seek sufficient information to provide confidence that the mitigation hierarchy has been appropriately applied.



8.2.6.5 It is recommended that a competent lighting consultant is employed to design a lighting plan based on the following principles highlighted in the 'Bats and Artificial Lighting' at Night (BCT and Institution of Lighting Professionals, 2023):

- All luminaires should lack UV elements when manufactured. Metal halide, compact 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 light source (2700Kelvin or lower) should be adopted to reduce blue light component
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges.
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered.
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
- Where appropriate, external security lighting should be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate.
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand.
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.

- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

8.2.6.6 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 hedgerow and drain used by foraging and commuting bats. A light intrusion lux level besides hedgerows and the drain on the western and southern boundaries will be 1 lux or below.

8.2.6.7 **Wold Ecology does not recommend any further activity surveys for bats.**

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 Great crested newts are recorded within 2km of the Application Site with a record in 1994, no location was identified.

8.3.3.2 No ponds or permanent water bodies suitable for breeding great crested newts were observed within the Application Site, the field survey and analysis of maps suggests that the nearest pond is located over 250m from Application Site. The wider habitat is largely well drained except for ornamental garden ponds associated with nearby housing estates. Ornamental ponds are typically sub-optimum great crested newt habitat and have reduced potential for great crested newt; they are not considered to be of any significance to the species. Key attributes to the decreased probability of great crested newts being present within ornamental garden ponds are:

- High density of stocked fish, which predate great crested newt larvae, eggs, and adults. The London Essex and Hertfordshire Amphibian and Reptile Trust state that 'Despite the natural protection of a poisonous secretion which makes the adults unpalatable to most predators, the larvae are highly vulnerable to fish predation. Entire colonies can be impacted upon by the introduction of fish'. It is unlikely that ponds with fish support great crested newts.
- Decrease macrophyte growth due to fish disturbance and foraging and decreased water turbidity.
- Increased water turbidity due to fish disturbance and associate high nitrate input.
- Fish likely to predate large numbers of the invertebrates important for great crested newt reproduction and adult diet.
- Poor vegetation structure, creating cold micro-climate and lack of sunlight penetration.
- Usually small pond size, limiting the reproductive value for such water bodies, not allowing sufficient recruitment to support viable populations.

- Isolated nature resulting in failure to form meta-populations and limits genetic diversity, further limiting breeding recruitment.
- Often ornamental ponds have raised sides making it impossible for amphibians to access them.
- Fishponds usually have pumps, filters, waterfalls and fountains which reduce the value to great crested newts. Free swimming larvae struggle to swim in moving water, also amphibians are prone to being killed by getting sucked into pump and filter systems.

8.3.3.3 The ditch contained flowing water, narrow flowing ditches are unsuitable habitat for great crested newts. Great crested newt larvae are predominantly nektonic and spend a considerable time of their development hanging within open water where they feed and glean warmth from the upper water column, this helps development. Flowing water interferes with this, additionally and given they are weak swimmers, flowing water like this would likely result in them being unable to swim properly or feed.

8.3.4 Site Status Assessment

8.3.4.1 Whilst it is not always possible to demonstrate site absence from a single site survey, with the evidence collected from a habitat survey and desk top study, the likelihood of the presence of great crested newts in the Application Site is decreased. Key attributes to the reduced probability of great crested newts being present are:

- There is no current knowledge of great crested newts within the Application Site.
- No suitable ponds exist within the Application Site.
- No suitable breeding ponds were observed within 250m of the Application Site.
- The Application Site primarily comprises arable which inhibits dispersal by reducing areas of shelter, foraging grounds and leaving amphibians open to predation and desiccation. Consequently, Application Site is poor quality terrestrial habitat for amphibians.
- The open exposed nature of the site with its limited plant diversity with limited refugia results in a poor invertebrate habitat. Great crested newts predominantly prey on slugs, insects, spiders and earthworms. They tend to forage in woodland, scrub, rough grassland and wetland areas largely due to the large diversity and abundance of invertebrates which these areas attract.
- Currently, the Application Site consists of sub-optimum terrestrial great crested newt habitat, with limited refugia and hibernacula and contains no suitable aquatic habitat for breeding. This is essentially an "island" within a wider area of drained agricultural land dominated by sub-optimum habitat
- The surrounding arable landscape significantly hampers great crested newt dispersal into the area, without the aid of humans. Great crested newts tend not to occur within areas of arable land unless it is directly adjoined to a breeding pond, unlike in the Application Site. Arable land is open, well drained with limited refugia leading to a significant risk of predation. The use of pesticides, lack of vegetation diversity and lack of refuge leads to poor invertebrate habitat and therefore poor foraging habitat.
- Surrounding road networks, walls, buildings and curbs limit great crested newt dispersal to and from the site in the wider area.

8.3.5 **Wold Ecology does not recommend any further surveys for great crested newts.**

8.3.6 Access was only granted within the Application Site and land owned by the client; neighbouring land was only studied from vantage points, maps and aerial photography and it is possible that some ponds may not have been recorded.

8.4 Birds

8.4.1 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.

8.4.2 Schedule 1 Birds

8.4.2.1 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.

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

8.4.4 Field Survey Methodology

8.4.4.1 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.

8.4.4.2 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*.

8.4.4.3 Wold Ecology assessed the site for schedule 1 listed species recorded having bred or attempted to breed in Yorkshire (Wold Ecology, GLNP), 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.

8.4.5 Field Survey Results

8.4.5.1 Schedule 1 Listed Birds

8.4.5.1.1 Summary of the Application Site's suitability to support schedule 1 birds:

Species recorded within 2km	Suitability of Application Site
Barn Owl *Tyto alba*	No suitable nesting cavities for this species given a lack of trees or buildings on site. Foraging habitat limited to a strip along hedge bases. Unlikely to be dependent on the site.

8.4.5.2 None-schedule 1 birds - breeding birds

8.4.5.2.1 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 with the arable fields and hedgerows.

8.4.5.3 None-schedule 1 birds - wintering birds

8.4.5.3.1 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, 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 any sections of hedgerow 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.

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

8.4.7 Biodiversity Gains and Recommendations

8.4.7.1 It is concluded that the Application Site is a suitable habitat for agricultural bird species with various designations. There is nesting potential for a range of birds including skylark *Alauda arvensis*, warblers, finches, wood pigeon *Columba palumbus*, dunnock *Prunella modularis* and wren *Troglodytes troglodytes*. Several simple management prescriptions can improve the site for breeding bird species.

8.4.7.2 Any hedgerows, and tall/dense 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.

8.4.7.3 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.

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 are 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 North Lincolnshire.

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

- There are no records of reptiles within 2km of the Application Site.
- 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 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, domestic cats, and foxes.
- The site is small, surrounded by disturbed land and fragmented from optimum reptile habitat in the wider area.
- The poor value of the site to amphibians (grass snake's chief food source) further limits the sites importance to grass snakes.
- The surrounding arable landscape significantly hampers reptile dispersal into the area, without the aid of humans. Reptiles tend not to occur within areas of arable land unless it is directly adjoined to an optimum habitat, unlike in the Application Site. Arable land is open, well drained with limited refugia leading to a significant risk of predation. The use of pesticides, lack of vegetation diversity and lack of refuge leads to poor invertebrate habitat and therefore poor foraging habitat for some reptile species.

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. 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.

8.8 Water vole

8.8.1 Legislation

8.8.1.1 The water vole is fully protected under section 9 of Schedule 5 of the Wildlife and Countryside Act 1981 (updated 6th April 2008). Legal protection makes it an offence to:

- Intentionally kill, injure or take (capture) a water vole
- Possess or control a live or dead water vole, or any part of a water vole
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or disturb water voles while they are using such a place
- Sell, offer for sale or advertise for live or dead water voles.

8.8.1.2 It is clearly not the intention of the law to prevent all development, management or maintenance works in areas used by water voles. However, legal protection does require that due attention be paid to the presence of water voles and appropriate actions are taken to avoid committing offences.

8.8.1.3 The water vole is found throughout Britain but is confined mainly to lowland areas near water. Once common and widespread, this species has suffered a significant decline in numbers and distribution. A national survey in 1989-90 failed to find signs of voles in 67% of sites where they were previously recorded, and it is estimated that this will rise to 94% by the turn of the century. A recent population estimate based on the number of latrines found suggested a total GB pre-breeding population of 1,200,000 animals.

8.8.2 Field Survey Methodology

8.8.2.1 Water voles prefer slow-moving watercourses less than 3m wide and around 1m deep, with lush bank side vegetation and no extreme water level fluctuations. Canals, water meadows and ponds are also used. In urban situations, sub-optimal areas are often inhabited, where the lack of predators can compensate for reduced bank side cover.

8.8.2.2 All aquatic habitats within and adjacent to the Application Site were assessed. This typically includes streams, ditches, rivers, ponds, and rush-pasture/marsh habitats; particularly when attached to other habitat corridors in the case of the latter two habitats.

8.8.2.3 A visual search for the presence of water voles and their signs was undertaken within any suitable habitat within or adjacent to the Application Site. Specifically, the visual survey involved:

- Actual sightings.
- Evidence of burrow entrance holes.
- Cropped "gardens" around tunnel entrances.
- Survey for latrines, droppings, feeding stations and footprints.
- Runways through vegetation and paths along the water's edge
- Dead animals or parts of dead animals

8.8.2.4 As well as water voles, American mink *Neovison vison* were also looked for; this species has had detrimental impacts on water voles throughout Britain and Europe where it has become established in the wild. Suitable site mitigation measures for water voles require the knowledge of mink population densities within the local area.

8.8.3 Field Survey Results.

8.8.3.1 There were no sightings or evidence to suggest that water vole is present on the ditches within 100 metres of the proposed development area. A water vole survey conducted on site by Brookes Ecology in 2018 did not identify this species within the adjacent drain. It is considered unlikely that water voles have repopulated the site since these surveys given the current condition of the drain.

8.8.3.2 There are no plans to work within 5m of the western boundary drain.

8.8.3.3 **Wold Ecology does not recommend any further surveys for water voles.**

8.9 Invasive species

8.9.1 Legislation

8.9.1.1 If invasive plants listed under schedule 9 of the wildlife and countryside act are identified on site, the site owner has a responsibility to prevent them spreading into the wild or causing a nuisance/damage.

8.9.1.2 You must not plant or otherwise cause to grow in the wild any plant listed on schedule 9 of the Wildlife and Countryside Act 1981.

8.9.2 Field Survey Result

8.9.2.1 No invasive species were observed during the field survey. However, this report should not be relied upon as definitive evidence of absence of INNS. This site presents a medium risk of supporting undetected INNS based on the following factors:

- Suboptimal survey season.
- Potential for tipping of material.

8.9.2.2 Should further assurances be needed in relations to INNS, a dedicated Invasive Weed Survey should be commissioned.

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 irreplaceable habitats or 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**
Irreplaceable Habitats	Ancient woodland	**N**
	Ancient and veteran trees	**N**
	Blanket bog	**N**
	Limestone pavements	**N**
	Coastal sand dunes	**N**
	Spartina saltmarsh swards	**N**
	Mediterranean saltmarsh scrub	**N**
	Lowland fens	**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.

9.3 Working adjacent to watercourses

9.3.1 Legislation

9.3.1.1 Under the Water Resources Act 1991 and associated byelaws, works in, over, under or adjacent to 'main rivers' require the consent of the Environment Agency. This

is to ensure that they neither interfere with the Agency's work nor adversely affect the environment, fisheries, wildlife and flood defence in the locality. The Environment Agency functions under the responsibilities of the Environment Act 1995. The EC Habitats Directive protects Special Areas of Conservation (SAC) and Special Protection Areas (SPA), and special consents are required from Natural England or the Countryside Council for Wales (in Wales only).

9.3.1.2 Construction and maintenance activities in or near water have the potential to cause serious pollution or impact on the bed and banks of a watercourse and on the quality and quantity of the water. Some activities with the potential for affecting watercourses or groundwater may require either consent in England and Wales under the Water Resources Act 1991 or an authorisation in Scotland under the Water Environment (Controlled Activities) (Scotland) Regulations 2005.

9.3.1.3 Types of activity that may impact upon the bed and banks of a watercourse or of a wetland include:

- repairs, maintenance or improvements to any structure in, over or above main river (as defined in the Water Resources Act 1991)
- erection or construction of any structure, either permanent or temporary, in, over or above main river
- diversion of flows
- works within the river channel or a lake/loch
- works within 10 metres of a main river watercourse or flood defence (in England, Northern Ireland and Wales).

9.3.1.4 Potential discharge of foul water into the adjacent watercourses should be addressed by the contractor.

9.3.2 Method statement

9.3.2.1 Run off from site roads and river crossings can contain high levels of silt. Reducing the pollution risk can be achieved by:

- brushing or scraping roads to reduce dust and mud deposits
- putting small dams in artificial roadside ditches to retain silt
- using existing permanent bridges or pipe crossings for river crossing
- if necessary, building temporary bridges - but not fording rivers and
- working from the bank where possible – not in the river

9.3.2.2 Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution. Concrete and cement mixing and washing areas should:

- be sited at least 30 metres from any watercourse or surface water drain to minimise the risk of run off entering a watercourse
- have settlement and re-circulation systems for water reuse, to minimise the risk of pollution and reduce water usage
- have a contained area for washing out and cleaning of concrete batching plant or ready-mix lorries
- wash waters from concrete and cement works should never be discharged into the water environment.

9.3.2.3 Ensure machinery is properly maintained, check for oil leaks before use. There are risks of pollution from fuel, oils and silt associated with use of machinery which

could result in prosecution. Particular attention should be paid to using chainsaws in or near the water's edge as chain oil sprayed during operation easily contaminates the water. Follow the correct procedures and if possible, use biodegradable oil to reduce this risk

9.3.2.4 Ensure fuel, oil and chemical storage on site is secure. Site the storage on an impervious base within a secondary containment system such as a bund. The base and bund walls should be impermeable to the material stored and able to contain at least 110% of the volume stored. Site the storage area above any flood water level and where possible away from high-risk locations (such as within 10 metres of a watercourse or 50 metres of a well, borehole or spring), to minimise the risk of a spill entering the water environment. Biodegradable chainsaw chain bar lubricant and biodegradable hydraulic oil in plant should be used when working in or near watercourses. The Environment Agency and its contractors use biodegradable oils for their own operations. Biodegradable oils are less toxic than most of the synthetic oil but should still be stored and used to the same standards as other oils.

9.3.2.4 Keep a spill kit with sand, earth or commercial products that are approved for your stored materials, close to your storage area. Train staff on how to use these correctly.

9.3.2.5 In no circumstance should burning take place in the water course channel or close to the bank edge and ash must not blow or wash into the watercourse as it is harmful to water life

9.3.2.6 Be sure to stack or remove any material well away from the river to avoid it being washed into the water again during the next flood.

9.3.2.7 Accident Plan

Condition	Likelihood	Consequences	Response
Machinery breakdown	Low to medium.	Potential damage to habitat due to spilled fuel or oil.	Call out of hirer to effect repairs. Competent operators will minimise the likelihood of mal-operation leading to a breakdown. Incident commander will be briefed about the environmental hazard.
Machinery fire	Low, since machinery will be maintained.	Potential damage to habitat due to spilled fuel or oil	Call out of fire brigade. Incident commander will be briefed about the environmental hazard.
Toppling of machinery	Low, since competent operators will be used	Damage to equipment. Personal injury. Damage to habitat, if near the watercourse	Pre-emptive: Machinery will be used as far away as possible from the bank, consistent with safe excavation of the final breakthrough from the meanders to the exiting watercourse. Personal injury: first aid kit available on site; ambulance call.

Vandalism	Low to medium Equipment will be in a field,	Minimal. With machines parked away from the watercourse when in use, and damage would be limited to the parking place.	Pre-emptive: As a matter of course, machinery will be parked away from the watercourse at the end of each working day. Machines will be locked when not in use

9.4 Trees

9.4.1 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.

9.5 Management planning

9.5.1 It is recommended that a detailed Ecological Construction Method Plan and a Wildlife Enhancement Plan is produced in order to protect, maintain and enhance the sites ecological value.

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11.0 APPENDICES

11.1 Appendix 1 – Summary of desktop study

Organisation.	Response Summary.	Date.
Natural England.	Local designations.	March 2024
Natural England.	UKBAP species and habitats within 2 km.	March 2024
North and East Yorkshire Ecological Data Centre.	Species lists within 2 km.	March 2024
www.magic.gov.uk	European Protected species licenses within 2km.	March 2024
Wold Ecology network.	Species lists up to 5 km from the Application Site.	2006 – to present day.

11.2 Appendix 2 - 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 43 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.

11.3 Appendix 3 - 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 since 1995. 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 1000 bat activity surveys since 2006 including writing and implementing over 165 Natural England bat development licenses.
- Chris is one of 221 (October 2023) 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.
- Chris has undertaken over 100 Preliminary Ecological Appraisals and EIA assessments which have included National Nature Reserves, SAC's, SPA's, SSSI's and local wildlife sites including sections of Hadrian's Wall, numerous English Heritage Castles and National Nature Reserves.

11.4 Appendix 4 – 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 UK Habitat Classification 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 UK Habitat Classification 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, UK Habitat Classification 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 UK Habitat Classification 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.