Land west of High Street, Messingham

Preliminary Ecological Appraisal – *Final report*

June 2021

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Report Overview	
Client details	Jackson Philips Asset Solutions
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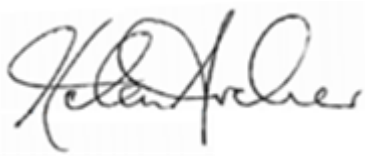
Prepared by	 Helen Archer BSc (Hons) MCIEEM – Principal Ecologist
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Archer Ecology would like to thank Lincolnshire Environmental Records Centre for the provision of historical ecological records and details of non-statutory designated sites to supplement the findings of this report.

EXECUTIVE SUMMARY

Archer Ecology Ltd was commissioned by Phil Jackson of Jackson Phillips Asset Solutions to undertake a Preliminary Ecological Appraisal (PEA) with respect to redevelopment works proposed of a primarily redundant plot, containing a large agricultural shed and ancillary buildings, located west of High Street in Messingham, Lincolnshire. In line with the current planning application (PA/2020/672), the proposals would involve redeveloping the plot to facilitate 30 residential dwellings.

As part of the commission, an Extended Phase 1 Habitat Survey of the application site was carried out by Principal Ecologist Helen Archer BSc (Hons) MCIEEM on 7th May 2021. The walkover was supplemented by historical records of protected species, priority habitats and non-statutory designated nature conservation sites falling within 2km of the scheme; these were obtained through consultation with Lincolnshire Environmental Records Centre.

A summary of the recommendations, pertaining to ecological receptors, are given within the following sub-headings. This advice would require revising should the location, nature and/or extent of the works be altered from those stipulated in this report.

Habitats and Biodiversity

The ecological walkover survey did not identify any habitats of significant value to nature conservation on a county, regional or national scale. All habitats encountered were assessed as having either low or moderate nature conservation value on a site and/or local scale.

In order for the development works to meet the requirements of a 10% 'gain' in biodiversity, which will be mandated for all development schemes upon Royal assent of the Environment Bill, it is proposed that a pre-works and post-works biodiversity assessment is undertaken.

Herpetofauna

A number of habitats established within and adjacent to the proposed works area offer suitable density and structure for amphibians and reptiles to shelter, forage and disperse. In order to mitigate the potential to harm single or small populations of amphibians and reptiles during the works, it has been advised that the site preparatory works follow a bespoke reptile and amphibian method statement (see Appendix IV).

Birds

No evidence of current nesting activity was observed during the walkover although buildings, mature scrub and the hedgerow established on the site were considered optimal for birds to establish nests, particularly passerines. Should vegetation clearance works be required within the nesting bird season, all onsite habitats should be firstly checked by a suitably experienced ecologist in advance.

Foraging bats

The site supports habitats that are potentially conducive to local foraging and commuting bat activity. These also provide habitat corridors with connectivity to the wider landscape and were assessed as having potentially low value for nocturnal bat activity. Advice has been given for the scheme to include a sensitive lighting scheme and to retain/replace areas of existing scrub vegetation.

Roosting bats

The majority of buildings occurring on the site did not present any observable features with a potential to support roosting bats. However, the small ancillary shed exhibited several potential roosting features located underneath the roof pantiles. Should the development works require the demolition or significant modifications to the ancillary shed, it is advised that the building is subjected to a single nocturnal bat activity survey in advance to determine the presence/absence of roosting bats.

Badger

No evidence of badger inhabitancy was identified during the walkover although there is a potential for badgers to forage and commute over the site at night. Advice has been given for all excavations to be covered at night to avoid accidental trapping of badgers (and other terrestrial mammals, such as hedgehogs).

Hedgehog

Habitats established on the site provide potential refuge for hedgehog. A sufficient gap of 13cm should be maintained on the underside of all areas of introduced fencing to allow hedgehogs to move freely onto and through the site.

Contents

EXECUTIVE SUMMARY		**3**
1.0	**INTRODUCTION**	**6**
2.0	**PLANNING POLICY AND LEGISLATION**	**7**
3.0	**METHODOLOGY**	**11**
4.0	**RESULTS**	**14**
4.0	**CONCLUSION AND RECOMMENDATIONS**	**25**
APPENDIX I – SPECIES METHODOLOGIES		**30**
APPENDIX II – PHOTOGRAPHS		**32**
APPENDIX III – PHASE 1 HABITAT SURVEY MAP		**36**
APPENDIX IV – AMPHIBIAN AND REPTILE METHOD STATEMENT		**37**

1.0 INTRODUCTION

1.1 Background

1.1.1 Archer Ecology Ltd was commissioned by Phil Jackson of Jackson Phillips Asset Solutions to undertake a Preliminary Ecological Appraisal (PEA) in support of redevelopment works proposed of a primarily redundant plot, containing a large farm shed and ancillary buildings, located west of Hight Street in Messingham, Lincolnshire (hereafter referred to as 'the site'). The current planning application (PA/2020/672) incurs redeveloping the plot to facilitate 30 residential dwelling.

1.1.2 The location of the site – centred at Ordnance Survey Grid Reference (OSGR) SE 89244 04169 - is shown in Figure 1, below.

Figure 1 – Location and extent of the site

1.2 Objectives

1.2.1 The purpose of this report is to identify any potential ecological receptors occurring within or adjacent to the proposed works area. These include protected species, habitats and designated nature conservation sites. This report also details any potential ecological constraints to the works (e.g., invasive plants), the requirement for any further ecological survey and/or monitoring works and provides details of proportionate mitigation measures, where appropriate.

2.0 PLANNING POLICY AND LEGISLATION

2.1 Natural Environment and Rural Communities Act

2.1.1 The Natural Environment and Rural Communities (NERC) Act includes a list under Section 41 (S41) of England's rarest and most threatened species and habitats. These are considered to be of '*principal importance*' in England.

2.1.2 There is a requirement under Section 40(1) and (2) for each Secretary of State to take steps '*to be reasonably practicable to further the conservation of the living organisms and types of habitat*' included in the list and there is a legal obligation on public bodies in England to have regard to these organisms and habitats whilst carrying out their functions. Currently, there are 56 habitats and 943 species of principal importance included on the S41 list.

2.2 Biodiversity Compliance

2.2.1 The United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, was held in Rio de Janeiro in 1992 and produced the 'Biodiversity: The UK Biodiversity Action Plan (BAP) (UK Biodiversity Partnership, 2007[1]) which lists priority species and habitats in the UK requiring conservation action.

2.2.2 The goal of the UK BAP is to '*Conserve and enhance biological diversity within the UK and contribute to the conservation of global biodiversity through all appropriate mechanisms*.' The UK BAP now includes 1,150 species and 65 habitats; these are allocated individual action plans for conservation known as Species Action Plans (SAPs) and Habitat Action Plans (HAPs).

2.2.3 As a signatory to the Convention on Biological Diversity (CBD) which was opened at the Earth Summit and entered into force in 1993, Local Biodiversity Action Plans (LBAPs) were developed by local authorities and counties to conserve fauna, flora and habitats at a local level. LBAPs set out a series of objectives and action plans for the conservation of priority species and habitats within in each district, county or region.

[1] UK BAP. UK Biodiversity Action Plan – Priority Species and Habitats [online]. Available at: https://webarchive.nationalarchives.gov.uk/20110303145245/http://www.ukbap.org.uk/newprioritylist.aspx [Accessed 9th May 2021].

2.3 National Planning Policy Framework

2.3.1 National Planning Policy Framework (NPPF) is the top tier of planning policy and sets out the government's planning policies for England and how these should be applied. NPPF also sets guidance to local authorities on planning policy within the planning system.

2.3.2 Section 15 relates to 'Conserving and enhancing the natural environment'. Relevant policies in relation to planning applications include:

- Paragraph 170. "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."

- Paragraph 174. “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 175. “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 incorporate

biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity."

2.4 The North Lincolnshire Local Development Framework

2.4.1 The North Lincolnshire Local Development Framework is a suite of Development Plan Documents (DPDs) which set out the local planning policy for the area. Relevant policies in relation to this planning application include:

- CS17: BIODIVERSITY The council will promote effective stewardship of North Lincolnshire's wildlife through:
    1. Safeguarding national and international protected sites for nature conservation from inappropriate development.
    2. Appropriate consideration being given to European and nationally important habitats and species.
    3. Maintaining and promoting a North Lincolnshire network of local wildlife sites and corridors, links and stepping-stones between areas of natural green space.
    4. Ensuring development retains, protects and enhances features of biological and geological interest and provides for the appropriate management of these features.
    5. Ensuring development seeks to produce a net gain in biodiversity by designing in wildlife, and ensuring any unavoidable impacts are appropriately mitigated for.
    6. Supporting wildlife enhancements that contribute to the habitat restoration targets set out in the North Lincolnshire's Nature Map and in national, regional and local biodiversity action plans.
    7. Improving access to and education/interpretation of biodiversity sites for tourism and the local population, providing their ecological integrity is not harmed.

3.0 METHODOLOGY

NB: Detailed methodologies pertaining to individual protected species are included under Appendix I of this report.

3.1 Overview

3.1.1 A PEA was undertaken of the site following guidance produced by Chartered Institute of Ecology and Environment Management (CIEEM)[2]. The assessment included:

- A desk-based search for historic records of protected, notable and invasive non-native species on the site and local vicinity. Data for locally and nationally designated nature conservation sites were obtained;
- An ecological walkover survey of the proposed works area (shown in Figure 1). The study area was extended beyond the works area, where appropriate, e.g., to undertake species-specific surveys;
- Identification of invasive non-native species; and
- Assessment of the potential impacts of the proposed works on habitat and floral/faunal receptors, as well as designated sites.

3.2 Desk study

3.2.1 To supplement the ecological walkover survey, a desktop study was undertaken in June 2021. This included a search of data, including protected species and statutory and non-statutory designated nature conservation sites, using the following resources:

- Lincolnshire Environmental Records Centre (LERC);
- Multi Agency Geographic Information for the Countryside (MAGIC) website[3]; and
- Aerial imagery.

3.2.2 The following geographical extent of the search area for potential zones of influence for nature conservation sites were considered to be appropriate:

[2] CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

[3] www.magic.gov.uk accessed March 2021

- 10km from the site for sites of International Importance (e.g., Special Area of Conservation (SAC));
- 2km from the site for sites of National or Regional Importance (e.g., Sites of Special Scientific Interest (SSSI)); and
- 2km from the site for protected/notable species (including biological records, post-2000) and non-statutory designated sites (e.g., Local Wildlife Sites (LWS)).

3.3 Field survey

3.3.1 An Extended Phase 1 Habitat Survey was completed on 7th May 2021 by Principal Ecologist Helen Archer BSc (Hons) MCIEEM who has over eleven years' experience of undertaking ecological walkover surveys.

3.3.2 The survey was completed in accordance with 'Extended Phase 1' methodology[4] and involved identifying notable/protected habitats and evidence of protected species on or adjacent to the site as well as determining the potential of the site for protected species inhabitancy, based on habitat quality and known historic presence.

3.3.3 Photographs taken during the survey, referenced within Section 4.3 of this report, are shown under Appendix II. A detailed JNCC Phase 1 Habitat Survey Map is included under Appendix III.

3.4 Survey limitations

3.4.1 An absence of desk study records cannot be relied upon to infer absence of a species/habitat as a lack of records may be a result of under-recording within a given search area.

3.4.2 Phase 1 Habitat survey aims to characterise the habitat on site and is not intended to give a complete list of plant species present.

3.4.3 Given the dense and often impenetrable nature of scrub vegetation established on the site, it was not possible to fully inspect this habitat for the presence of badger *Meles meles* setts. However, it would be expected that other field signs pertaining to

[4] Joint Nature Conservation Committee (2010) *Handbook for Phase 1 Habitat Survey. A Technique for Environmental Audit.*

this badger, such as latrines, would be evident should the site be inhabited by this species.

3.5 Scoped out

3.5.1 Given a lack of suitable habitat opportunities for white-clawed crayfish *Austropotamobius pallipes*, otter *Lutra lutra* and water vole *Arvicola amphibious*, including streams and rivers, these protected faunae have been scoped out of the assessment.

4.0 RESULTS

4.1 Statutory Designated Nature Conservation Sites

European / Internationally designated sites for nature conservation

4.1.1 The site lies approximately 8km south-east of the Humber Estuary Special Area of Conservation (SAC) and Ramsar site at the closest point. This multi-designatory site is valued for supporting nationally and internationally significant populations of overwintering and breeding waterbirds, including internationally important assemblages of common shelduck *Tadorna tadorna*, Eurasian golden plover *Pluvialis apricaria*, red knot *Calidris canutus*, dunlin *Calidris alpina*, black-tailed godwit *Limosa limosa*, bar-tailed godwit *Limosa lapponica* and common redshank *Tringa totanus.*

4.1.2 The Humber Estuary is also primarily designated for containing a myriad of estuarine, mudflat and sandflat habitats that are nationally scarce and/or unique to the UK, including:

- 1330 Atlantic salt meadows,
- H1110 Sandbanks which are slightly covered by sea water all the time,
- H1140 Mudflats and sandflats not covered by seawater at low tide
- H1310 *Salicornia* and other annuals colonising mud and sand; and
- 1150 coastal lagoons

4.1.3 Given the nature/scale of the proposed works and considering the distance and level of separation between the application site and the Humber Estuary SAC/Ramsar site, the works are predicted to result in neutral impacts upon this statutory designated nature conservation site.

Nationally designated sites for nature conservation

4.1.4 Two nationally designated sites for nature conservation fall within a 2km radius of the application site; these are Measingham Heath SSSI and Messingham Sand Quarry SSSI. These sites occur >1.1km south-west and >1.8km south-east of the application site, respectively.

4.1.5 Messingham Heath SSSI is valued for supporting one of the last remaining examples of coversand heathland in the Scunthorpe-Messingham area. This statutory designated site contains open communities of dry heath, which support scarce heather and other vegetation that is typical of heathland habitats, over an undulating area of sand hills. The SSSI is further valued for supporting Grayling butterfly *Hipparchia semele* which has seen a national population decline in recent years.

4.1.6 Messingham Sand Quarry SSSI supports a mosaic of open water and broadleaved/coniferous woodland habitats that have colonised over a former quarry site that has since been restored. This site also features evidence of successful heathland vegetation re-establishment. The SSSI is further valued for supporting large volumes of bird species, together with a variety of lepidoptera including the very rare scarce-vapourer moth *Orgyia recens*.

4.1.7 Given the nature/scale of the proposed works and considering the distance and level of separation between the application site and the aforementioned SSSIs, the works are predicted to result in neutral impacts upon the integrity of interest features forming these statutorily designated nature conservation sites.

Non-statutory designated sites for nature conservation

4.1.8 Data returned by LERC indicated five Local Wildlife Sites (LWS) and a single Lincolnshire Wildlife Trust (LWT) reserve within a 2km radius of the application site. Details of the location of these sites, relative to the application site, are shown in Table 2, below, together with an overview of associated interest features.

Table 2 – Non-statutory designated nature conservation sites within a 2km radius

Non-Statutory Site	Proximity to site	Interest features
West Common North Road LWS	>1.5km west	Semi-improved neutral grassland, scattered/dense scrub and ditch
Messingham Grassland LWS	>1.8km east	Semi-improved neutral grassland and unimproved acid grassland habitats
Holme Lane Verge LWS	>1.8km north-	Neutral grassland, damp grassland,

Non-Statutory Site	Proximity to site	Interest features
	west	scattered scrub and running water
Messingham Lakes LWS	>1.9km north-east	Standing water and marsh/fen habitats
Messingham Northwest LWS / LWT Reserve	>1.9km east	Semi-improved acid grassland and damp acid grassland

Priority Habitats

4.1.9 A search using MAGIC identified that no Priority Habitats, as listed under Section 41 of the NERC Act, occur on and/or within significant proximity to the application site.

4.2 Extended Phase 1 Habitat Survey

4.2.1 The site is situated within a principally residential area and lies within the centre of Messingham village in North Lincolnshire. The wider landscape is principally agricultural in nature.

4.2.2 All habitats recorded within the immediate proposed area of works are described under the following sub-headings.

A2.1 – Scrub - Dense

4.2.3 The site is colonised by dense pockets of scrub vegetation which have become dominant across the northern and western periphery (see Photograph 1, Appendix II). Scrub vegetation was characterised by continuous bramble *Rubus fruticosus* agg., with frequent elder *Sambucus nigra* and blackthorn *Prunus spinosa*, together with occasional self-seeded trees, including ash *Fraxinus excelsior*.

4.2.4 In view of the species diversity and maturity of dense scrub vegetation, this habitat offers potentially moderate ecological value on a local scale. The nature conservation value of this habitat was, however, limited by the principally isolated

location of the site relative to the wider landscape and lack of habitat connectivity in between.

B2.2 - Neutral grassland - Semi-improved

4.2.5 The majority of the application site supports an expanse former improved grassland, dominated by perennial rye-grass *Lolium perenne*, which has since been colonised by a number of herbaceous plants and grasses, including frequent common vetch *Vicia sativa*, cock's-foot *Dactylis glomerata*, dandelion *Taxacum officinale* agg., ground ivy *Glechoma hederacea* and daisy *Bellis perennis* (see Photograph 2, Appendix II). Considering the principally unmanaged condition of this habitat, areas of grassland were tussocky in nature and becoming colonised by ruderal vegetation.

4.2.6 In view of the predominantly low species diversity of semi-improved neutral grassland, this habitat was assessed as having potentially moderate ecological value on a site scale only.

C3.1 – Tall ruderal

4.2.7 The majority of the site is dominated by continuous stands of scattered, tall ruderal vegetation which has colonised over areas of former improved grassland (see Photograph 3, Appendix II). This habitat was typically dominated by great willowherb *Epilobium hirsutum* and common nettle *Urtica dioica*, with occasional sow-thistle species *Sonchus spp.*, cleavers *Galium aparine* and broad-leaved dock *Rumex obtusifolius* observed.

4.2.8 Considering the scattered nature and species composition of tall ruderal vegetation, which was limited to commonly occurring specimens only, this habitat was assessed as having generally low ecological value on a site scale.

J2.1.2 – Hedgerow – Intact – Species-poor

4.2.9 The southern extent of the western site perimeter supports an unmanaged, intact hedgerow that is predominantly composed of hawthorn *Crataegus monogyna* with occasional bramble and elder forming the understory (see Photograph 4, Appendix II).

4.2.10 Considering the unmanaged and intact condition of this hedgerow, it has a potential to offer moderate ecological value on a local scale whilst retaining connectivity to the wider landscape. The hedgerow does not contain enough qualifying features to be classified as 'important' under the criteria of the Hedgerow Regulations (1997, as amended).

J2.4 - Fences

4.2.11 The site is bound along the western and southern periphery by wooden post and mesh panelled fencing which denotes the curtilage or adjacent residential properties.

4.2.12 Fences did not offer any significant value to nature conservation and were considered to be sufficiently intact, across the majority of the site periphery, to prevent the movement of large terrestrial fauna onto and through the site, such as badgers *Meles meles*.

J2.5 - Wall

4.2.13 Part of the northern site periphery is demarcated by a stone/brick wall. This could not be fully inspected at the time of the survey, due to the presence of dense and continuous scrub vegetation but is expected to be relatively intact throughout. Subsequently, the wall is likely to inhibit the movement of large, terrestrial fauna onto and through the site, such as badgers.

4.2.14 The wall is not expected to offer any significant ecological and/or nature conservation value.

J3.6 – Buildings

4.2.15 The site accommodates a cluster of agricultural buildings which occur close to the vehicular access point at the eastern periphery, which is adjacent to High Street/Scotter Road.

4.2.16 Details of the architectural style and condition of these buildings are given under the following sub-headings.

Agricultural unit

4.2.17 A large agricultural building, which serves as a vehicular storage unit, occurs close to the south-eastern periphery of the application boundary and opposite the site's vehicular access point off High Street/Scotter Road (see Photograph 5, Appendix II). The structure comprises a large, detached building of simplistic architectural style and is constructed from a combination of intact breezeblock and brick walls.

4.2.18 The building is clad along the majority of elevations by timber and corrugated sheet panelling and features a single-pitched, corrugated panelled roof that is devoid of a loft void. Large, horizontal sliding and roller doors are fitted across the eastern elevation.

Former cart shed

4.2.19 A small, former cart shed is situated along the central extent of the eastern site perimeter (see Photograph 6, Appendix II) and abuts The Stables Restaurant to the north and east.

4.2.20 The building is constructed from a timber framework with a combination of stone, breezeblock and brick walls which support a single-pitched, corrugated sheet roof. The cart shed is open-fronted along the west-facing elevation and is exposed internally.

Ancillary shed

4.2.21 A small, open fronted shed lies immediately west/opposite the former cart shed (see Photograph 7, Appendix II). The building is constructed from a combination of stone, brick and block walls and supports a single pitched timber, framed roof. The shed is open-fronted along the southern elevation and is exposed internally.

4.2.22 The roof is partially overlain with membrane and clad with pantiles along the eastern and western aspects. This appeared to be predominantly intact throughout.

<u>J4 – Bare ground</u>

4.2.23 The eastern extent of the site supports an expanse of combined tarmac and aggregate hardstanding. This did not sustain any significant assemblages of vegetation and was appraised as having negligible ecological value.

4.3 Species

Amphibians

2.4.2 Data returned by LERC included a substantial number of records representing common frog *Rana temporaria* and smooth newt *Lissotriton vulgaris* within a 2km radius of the site although no verified records of great crested newt *Triturus cristatus* were returned.

4.3.1 A number of habitats established within and adjacent to the proposed works area offer suitable density and structure for amphibians to inhabit, forage and disperse. These include the understory of continuous scrub vegetation, which occupies the the periphery of the application site, together with a length of hedgerow, ruderal vegetation and expanses of grassland.

4.3.2 The location of the works does not contain any standing waterbodies. A search using online map and aerial imagery indicates a lack of connecting standing water bodies within a 500m radius of the site. A small number of arable and roadside drains occur to the south and south-west of the site. However, these are separated from the application site by roads and continuous residential developments which present a significant barrier to newt dispersal. The likelihood of encountering amphibians during site preparatory works is considered to be significantly low.

Reptiles

4.3.3 LERC returned a small number of records of common lizard and a single records of grass snake *Natrix helvetica* at Messingham Sand Quarry which lies >1.8km south-east of the application site.

4.3.4 The application site supports habitats of suitably diverse vegetation structure to promote reptile inhabitancy, including the understory of scrub vegetation, a hedgerow and tall ruderal vegetation amongst areas of grassland which occupies the footprint.

4.3.5 However, the site lacks strong connectivity to other, intermediate habitats of value to reptiles within the locality, particularly given the presence of densely populated residential areas to the north, south and west.

4.3.6 Considering the residential setting of the site and higher risk of predation from domestic cats, it is unlikely that the site could sustain notable populations of reptiles.

However, it is possible that individual reptiles could be encountered during site preparatory activities.

Birds

2.4.3 Data provided by LERC included a number of records for birds within a 2km radius of the site. These records include barn owl *Tyto alba,* brambling *Fringilla montifringilla,* fieldfare *Turdus pilaris,* hen harrier *Circus cyaneus,* peregrine *Falco peregrinus* and red kite *Falco milvus* which are species listed under Schedule 1 of the Wildlife and Countryside Act (1981, as amended). The site generally lacks optimal habitat opportunities for these aforementioned species to inhabit and no evidence of barn owl was observed within any of the buildings on the site.

2.4.4 In view of the maturity and vegetation structure/density of hedgerows and dense scrub established within and along the periphery of the site, these were considered optimal for passerine birds to establish nests. There is also a possibility for birds to nest amongst guttering and other horizontal surfaces associated with all buildings that occur on the site.

4.3.7 General and territorial passerine activity was recorded on the site during the walkover, including carrion crow *Corvus corone*, robin *Erithacus rubecula,* blackbird *Turdus merula*, gold crest *Carduelis carduelis*, chiffchaff *Phylloscopus collybita* and wood pigeon *Columba palumbus*. The majority of bird activity was focused along the western extent of the site. Furthermore, the large agricultural building was observed to be regularly frequented by wood pigeon.

4.3.8 No evidence of current nesting activity was observed although there is the potential for birds to readily establish nests on the site in future. Nesting birds could, therefore, be adversely impacted by any proposed vegetation clearance activities required to facilitate the works, in absence of mitigation.

Bats

4.3.9 Data returned by LERC included multiple records of bats within a 2km radius of the application site, including pipistrelle species *Pipistrellus* spp., brown long-eared bat *Plecotus auritus*, Daubenton's bat *Myotis daubentonii,* noctule bat *Nyctalus noctula*, Natterer's bat *Myotis nattereri* and whiskered bat *Myotis mystacinus.* Of these data, only a small number of records pertaining to roost sites were returned. The closest

identified roost (representing common pipistrelle *Pipistrellus pipistrellus*) is located at a residential premise >230m south-west of the site. This record is dated 2008.

4.3.10 Considering the distance between this roost site and the application site, the development is not expected to adversely impact upon the physical condition and/or functionality of this roost site.

Roosting - Trees

4.3.11 The site supports occasional self-seeded trees as well as a small number of mature specimens beyond the north-eastern boundary. All trees were observed to be in good physical condition generally and did not present any observable features with a potential to support roosting bats. This was largely attributed to the predominantly sub-mature age and/or good physical condition of the trees. In line with categories contained within BCT guidelines[5] trees on the site were assessed as having negligible potential to support roosting bats.

Roosting - Buildings

4.3.12 The large agricultural unit was identified as being a simplistic structure and, thus, lacked any observable potential bat roosting features, such as wall cavities, roost tiles, chimney stacks and loft voids. Subsequently, the building was appraised as having negligible potential to support bat roosts in line with categories contained within BCT guidelines.

4.3.13 The cart shed appeared to be intact throughout and lacked any observable potential roosting features that could be exploited by bats. The structure was considered to be largely exposed and, therefore, offered unsuitable roosting conditions. Subsequently, the cart shed was appraised as having negligible potential to support roosting bats.

4.3.14 The walls and all associated brickwork forming the ancillary shed were assessed as being consistently intact throughout and lacked any observable features with a potential to support roosting bats, such as wall cavities. However, a series of small crevices were found to be associated with the roof structure, including gaps between the pantiles and a layer of intact membrane. These were considered to be of sufficient dimension to offer potential roosting features for crevice-dwelling bats,

[5] Collins (2016). Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition

such as common pipistrelle, with the potential to be used on an occasional/transient basis. In view of the quality and availability of potential roosting features, the ancillary shed was appraised as having low potential to support roosting bats.

4.3.15 Provided precautionary measures are followed, including a pre-works bat survey and all necessary mitigation works, site preparatory works are expected to result in neutral impacts upon roosting bats.

Foraging/commuting

4.3.16 Considering the continuity and density of scrub vegetation established on the site, this habitat was appraised as being potentially conducive to local foraging and commuting bat activity. The hedgerow established along the southern extent of the western site perimeter also provides a potential foraging corridor whilst retaining good level of connectivity to the wider landscape, including neighbouring residential gardens. The site is, therefore, expected to be utilised by locally foraging bats on an occasional basis and was, thus, assessed as having potentially low value for nocturnal bat activity.

4.3.17 Should the site preparatory works incur the removal of all areas of scrub vegetation and hedgerows, this could disrupt local foraging/commuting bat activity in absence of mitigation.

Badger

4.3.18 LERC returned a number of badger records within a 2km radius of the proposed works area although no records were returned for land occurring on and/or within significant proximity to the application site.

4.3.19 Topographically, the site is predominantly flat and considered to be of unsuitable profile for badgers to excavate setts. No evidence of badger activity was observed during the walkover survey and, due to the occurrence of continuous residential developments within the locality, the site is considered to be largely isolated from other habitats of value to badger, such as arable land.

4.3.20 There is, however, a low possibility that local badger clans could forage and/or commute onto the site at night.

Species listed under Section 41

4.3.21 LERC returned records for western European hedgehog *Erinaceus europaeus* within a 2km radius of the site. The understory of scrub vegetation, hedgerows and ruderal vegetation established on the application site provides potential refuge for this species.

Invasive Non-native species

4.3.22 No evidence of invasive non-native species was identified within the application site. No interactions with invasive non-native species are expected as part of the scheme.

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Statutory and Non-statutory Designated Sites for Nature Conservation

4.3.23 The data search identified that the application site lies >8km south-east of the Humber Estuary Special Area of Conservation (SAC) and Ramsar site at the closest point. Furthermore, two SSSIs were identified within a 2km radius of the application site.

4.3.24 However, given the nature/scale of the proposed works and considering the distance and level of separation between the application site and these nature conservation sites, the works are predicted to result in neutral impacts upon the integrity of associated interest features. Statutory and non-statutory designated sites are therefore not considered to be a potential receptor with respect to the proposed works.

4.2 Habitats and Biodiversity

4.2.1 The ecological walkover survey did not identify any habitats of significant value to nature conservation on a county, regional or national scale. All habitats encountered were assessed as having either low or moderate nature conservation value on a site and/or local scale.

4.2.2 **In order for the development works to meet the requirements of a 10% 'gain' in biodiversity, which will be mandated for all development schemes upon Royal assent of the Environment Bill, it is proposed that a biodiversity assessment is undertaken.**

4.2.3 **Using the DEFRA Biodiversity Metric 2.0 calculator, the assessment would examine the changes in the pre-works and post-works biodiversity units scoring for the site and make realistic recommendations to achieve net gain by means of habitat creation, retention and/or succession**.

4.3 Species

Amphibians

4.3.1 Amphibians are protected under the Wildlife and Countryside Act 1981 (as amended) against being killed and injured and included as Priority Species under

the NERC Act (2006). Great crested newts are further protected by British and European law which also makes it an offence to capture or disturb them and to damage or destroy their habitat.

2.4.5 A number of habitats established within and adjacent to the proposed works area offer suitable density and structure for amphibians to shelter, forage and disperse. These include the understory of scrub vegetation, hedgerows and grassland habitats. However, given a lack of connecting standing waterbodies within the locality of the site, it is considered highly unlikely that great crested newts would be affected by the works, although it is possible that commonly occurring amphibians could be encountered during site preparatory activities.

2.4.6 **In order to mitigate the potential to harm single or small populations of amphibians during the works, it is advised that the site preparatory works follow a bespoke reptile and amphibian method statement (see Appendix IV).**

Reptiles

4.3.2 All four of the common species of native reptiles, that is common lizard *Zootoca vivipara,* grass snake, slow worm and adder *Vipera berus*, are given partial protection under the Wildlife and Countryside Act 1981 (as amended) which prohibits the intentional killing, injuring or taking of these species.

4.3.25 The application site supports habitats of suitably diverse vegetation structure to promote reptile inhabitancy. However, the site lacks strong connectivity to other, intermediate habitats of value to reptiles within the locality, particularly given the presence of densely populated residential areas to the north, south and west.

4.3.26 Considering the residential setting of the application site and higher risk of predation from domestic cats, it is unlikely that the site could sustain notable populations of reptiles.

4.3.27 **In order to mitigate the potential to harm single reptiles during the works, it is advised that the site preparatory works follow a bespoke reptile and amphibian method statement (see Appendix IV).**

Birds

4.3.3 All nesting birds and active nests are protected under the Wildlife and Countryside Act (1981, as amended) which makes it an offence to take, damage or destroy the

nest of any wild bird while it is in use or being built, and to take or destroy the egg of any wild bird. Certain birds, listed under Schedule 1 of the Act, are also protected against disturbance whilst building a nest, or when on or near a nest containing eggs/unfledged young.

4.3.4 No evidence of current nesting activity was observed during the walkover although buildings, mature scrub and the hedgerow established on the site were considered optimal for birds to establish nests, particularly passerines.

4.3.5 **As a precautionary measure, all vegetation should be managed outside of the main nesting bird season (nesting season runs March-August, inclusive), where practicable. Should vegetation management be required within the nesting bird season, all onsite habitats should be firstly checked by a suitably experienced ecologist in advance.**

4.3.6 **If active nests are found, these must be safeguarded and left undisturbed until all chicks have fledged. As a positive enhancement measure, the loss of nesting features could also be compensated by installing bird boxes.**

4.3.7 **As a positive enhancement, it is advised that artificial bird nesting features are incorporated into the development scheme, such as integrated and/or free-standing nest boxes.**

Bats

4.3.8 Bats receive protection under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). It is an offence to take, kill or injure a bat, damage or destroy a resting place of a bat, or disturb a bat whilst it is occupying a place of shelter.

Roosting

4.3.9 The majority of buildings occurring on the site did not present any observable features with a potential to support roosting bats. However, the small ancillary shed exhibited several potential roosting features located underneath the roof pantiles.

4.3.10 Considering the quality and limited abundance of potential roosting features, the building was assessed as having 'low' potential to support roosting bats.

4.3.11 **Should the development works require the demolition or significant modifications to the ancillary shed, it is advised that the building is subjected to a single nocturnal bat activity survey to determine the presence/absence of roosting bats. The survey should be completed during the main bat activity period (i.e., May to August inclusive) and would comprise a single dusk survey to be undertaken by a suitably experienced ecologist. The survey would commence 15 minutes prior to sunset and cease 90-120 minutes following sunset.**

4.3.12 **As a positive enhancement, it is advised that artificial bat roosting features are incorporated into the development scheme, such as integrated and/or free-standing bat boxes.**

Foraging

4.3.13 The site supports habitats that are potentially conducive to local foraging and commuting bat activity. These also provide habitat corridors with connectivity to the wider landscape and were assessed as having potentially low value for nocturnal bat activity.

2.4.7 **In order to avoid impacts upon nocturnal bat activity, dark unlit corridors should be maintained around and across the site, allowing bats to pass through and across the site unhindered by artificial light.**

2.4.8 **Should any artificial lighting be introduced on the site, this should be directed away from potential foraging features (including hedgerows and scrub) and aim for an output not exceeding 1lux, which is comparable to twilight conditions.**

2.4.9 **It is advised that areas of scrub vegetation are retained, as far as practicable, and/or that habitats of equivalent value to foraging bats are created.**

<u>Badger</u>

2.4.10 Badgers are protected and so are the setts (burrows) they live in under the Protection of Badgers Act 1992 making it is an offence to; wilfully kill, injure or take a badger (or attempt to do so), cruelly ill-treat a badger, dig for a badger, intentionally or recklessly damage or destroy a badger sett, or obstruct access to it, cause a dog

to enter a badger sett or disturb a badger when it is occupying a sett. Badgers are highly mobile and could commute onto and through the site during night.

2.4.11 **All excavations should be covered at night to avoid accidental trapping of badgers (and other terrestrial mammals, such as hedgehogs).**

Hedgehog

2.4.12 Habitats established on the site provide potential refuge for hedgehog. The precautions provided for badger in section 2.4.11 will also protect this species during the development phase.

2.4.13 The development should be considerate of the movement of hedgehogs both onto and through the site. **A sufficient gap of 13cm should be maintained on the underside of all areas of introduced fencing. This has the added benefit of allowing dispersal of other small mammals and herpetofauna onto and off the sites and to retain ecological connectivity.**

APPENDIX I – SPECIES METHODOLOGIES

The fauna included within this assessment is based on the habitats present, data from the desk-based searches, and the following legislation[6]:

- Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- The Conservation of Habitats and Species Regulations 2017, and
- The NERC Act 2006 – S41 Species of Principal Importance (SPI) for the conservation of biodiversity.

Amphibians

Where accessible, waterbodies within 500m of the site boundary were identified using online Ordnance Survey maps and aerial imagery[7] and were assessed for their suitability to support great-crested newts using a Habitat Suitability Index (HSI).

The HSI is a numerical index, between 0 and 1. Values close to 0 indicate unsuitable habitat, 1 represents optimal habitat (Oldham et al., 2000) [8].

Reptiles

An assessment of the suitability of the habitats present to support common reptile species was undertaken[9].

In accordance with current guidance this assessment involved a review of habitats and habitat structure for suitable shelter for reptiles such as areas of scrub and woodpiles, grassland with well-developed and varied structure, areas suitable for basking and large tussocks etc.

6 See www.legislation.gov.uk

7 www.bing.com/maps accessed May 2021

8 Oldham et al., (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10, 143-155

9 Froglife (1999). Froglife Advice Sheet 10: reptile survey. Froglife, London.

Birds

Based upon vegetation maturity, structure and density, an assessment of habitats was undertaken to determine the likely value to breeding and foraging birds. Buildings and built structures were also examined for the presence of horizontal surfaces and crevices with the potential to support nest sites.

Bats

Tree assessments were undertaken from ground level with the aid of a torch and binoculars, where required. During the survey Potential Roosting Features (PRF) for bats following current best practice[10],[11],[12] were recorded.

The potential for the site and immediate surrounds to support foraging and commuting bats was also assessed, with particular regard given to the presence of continuous tree lines, watercourses and hedgerows providing good connectivity in the landscape, and the presence of varied habitat such as scrub, woodland, grassland and open water in the vicinity.

Badger

Areas of suitable habitat were surveyed for evidence of badger activity, such as mammal paths, setts, snuffle holes or latrines[13].

Legally controlled species

Evidence of species listed on Schedule 9 of the Wildlife and Countryside Act (1981) as amended were recorded as seen.

[10] Collins (2016). Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition

[11] Mitchell-Jones, A.J, & McLeish, A.P. Ed. (2004). Bat Workers' Manual 3rd Edition

[12] BCT (2015) Surveying for Bats in Trees and Woodland – Guide

[13] Natural England (2015) Badgers: surveys and mitigation for development projects.

APPENDIX II – PHOTOGRAPHS

Photograph 1 – Dense scrub occupying a proportion of the site

Photograph 2 – Expanse of semi-improved grassland habitat

Photograph 3 – Pockets of tall ruderal vegetation

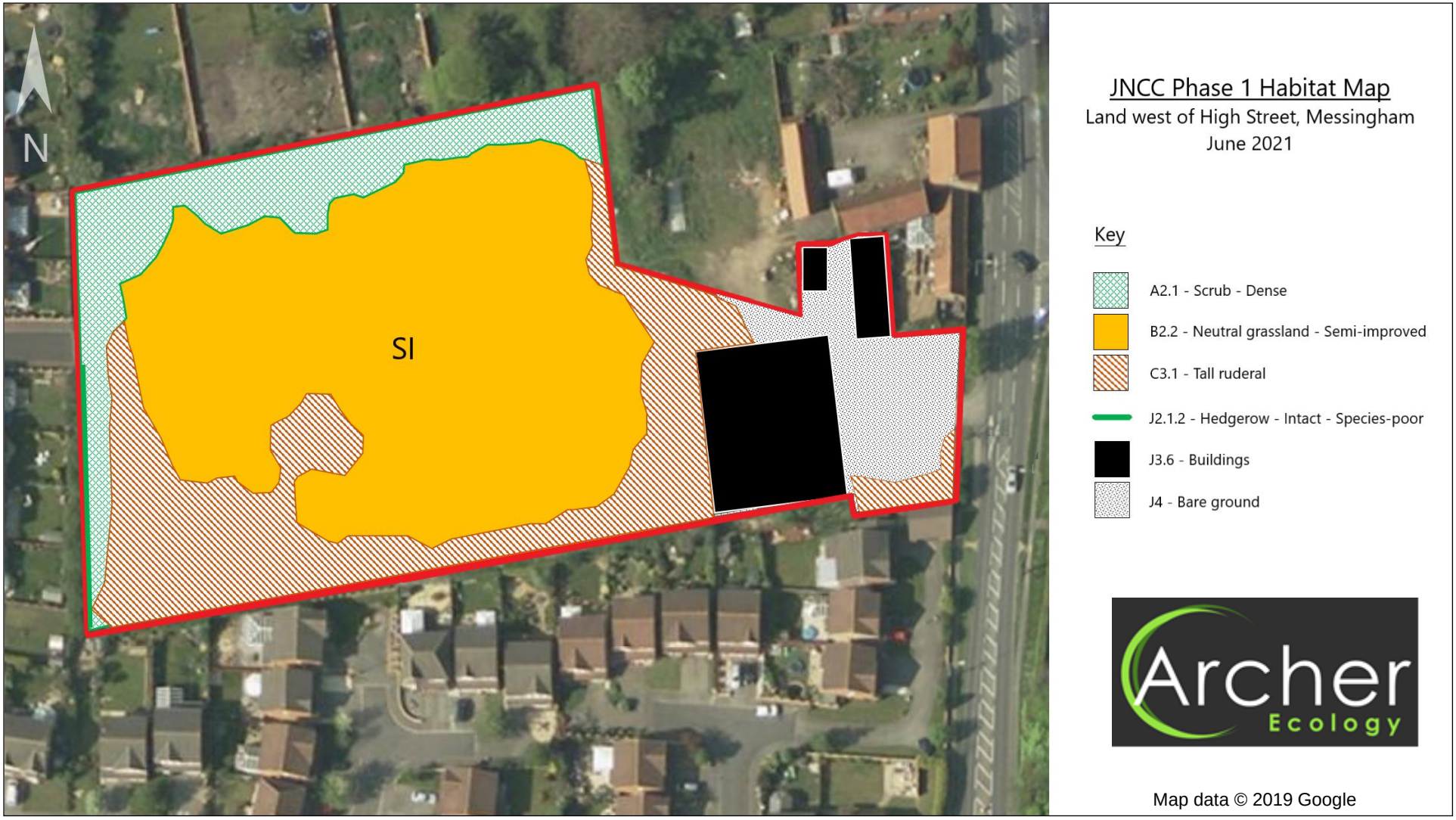
Photograph 4 – Unmanaged hedgerow along western site perimeter

Photograph 5 – Large agricultural unit

Photograph 6 – Former cart shed

Photograph 7 – Ancillary shed

APPENDIX III – PHASE 1 HABITAT SURVEY MAP



APPENDIX IV – AMPHIBIAN AND REPTILE METHOD STATEMENT

Amphibians

Legal Protection

Common amphibian species are protected under the Wildlife and Countryside Act 1981 (as amended) against being killed and injured and included as Priority Species under the NERC Act (2006).

In England great crested newts *Triturus cristatus* are fully protected under the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way (CRoW) Act 2000. They are also protected by European legislation; the EC Habitats Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2017. This has recently been amended by the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019, which continue the same provision for European protected species, licensing requirements, and protected areas after Brexit. Taken together, this legislation makes it illegal to:

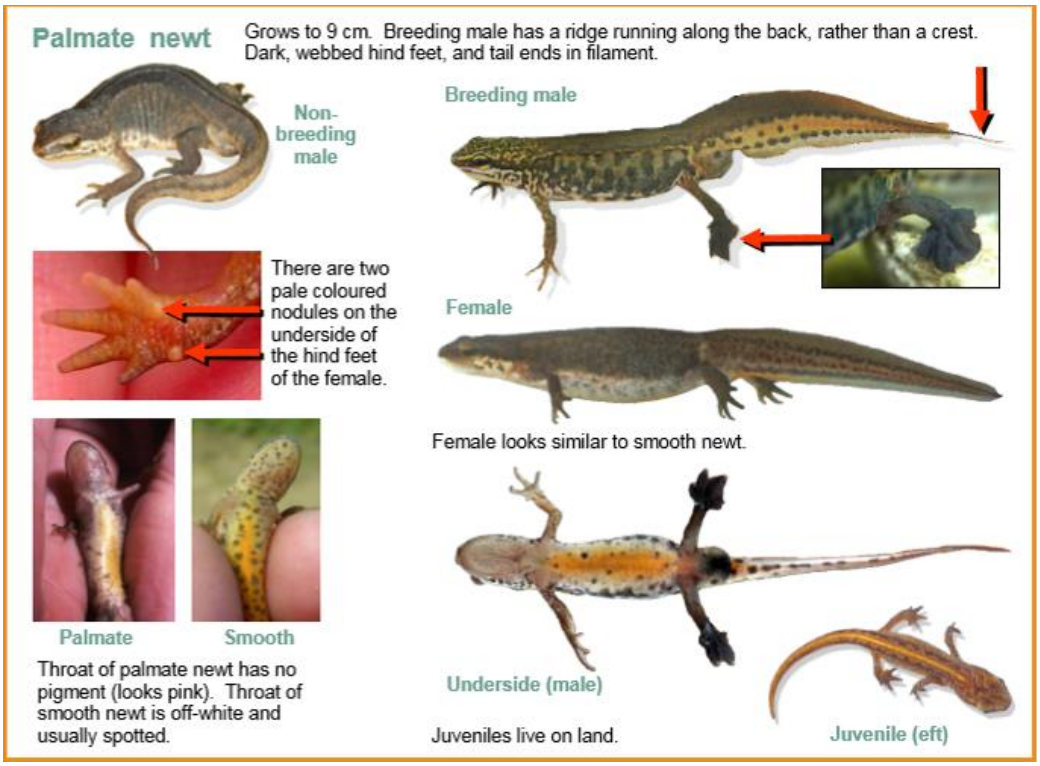
- Intentionally or recklessly kill, injure or capture a great crested newt
- Damage or destroy habitat which a great crested newt uses for shelter or protection
- Deliberately disturb a great crested newt when it is occupying a place it uses for shelter and protection

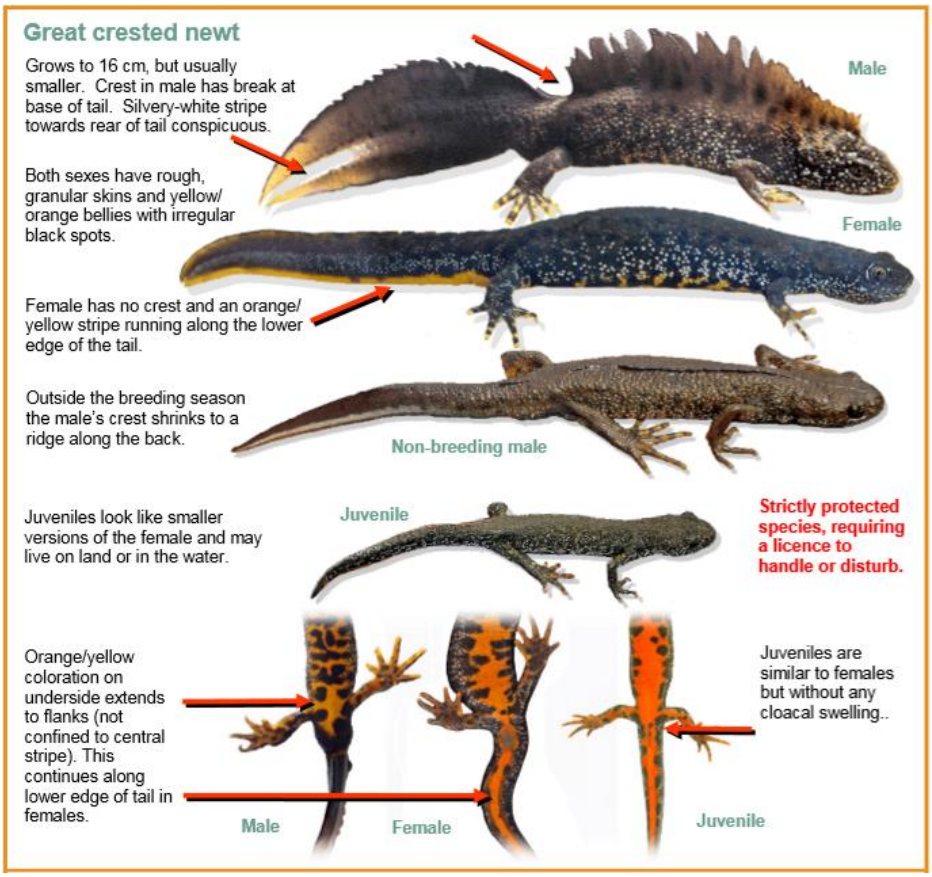
Identification

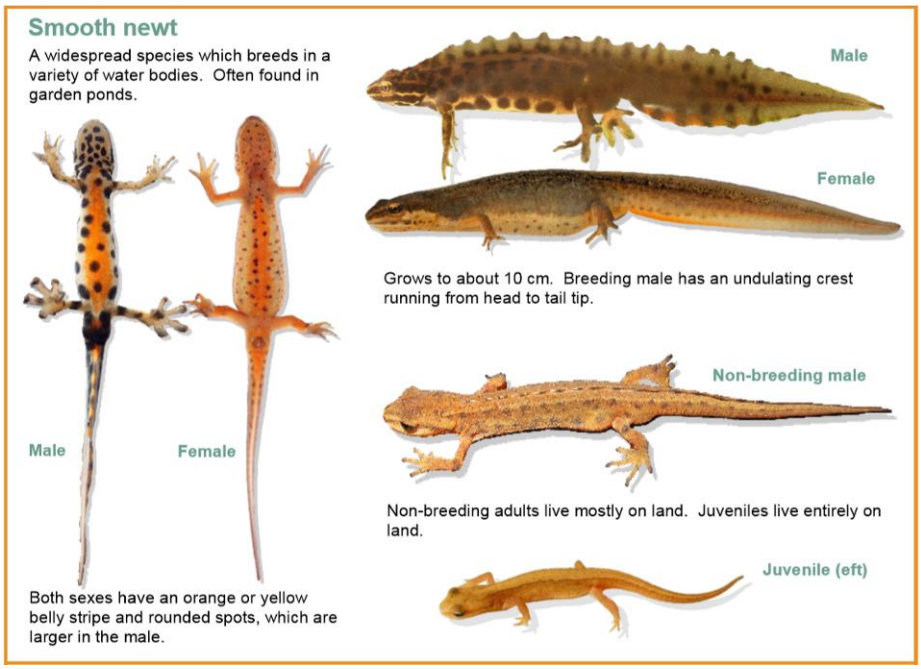
There are five species of native amphibian within the UK:

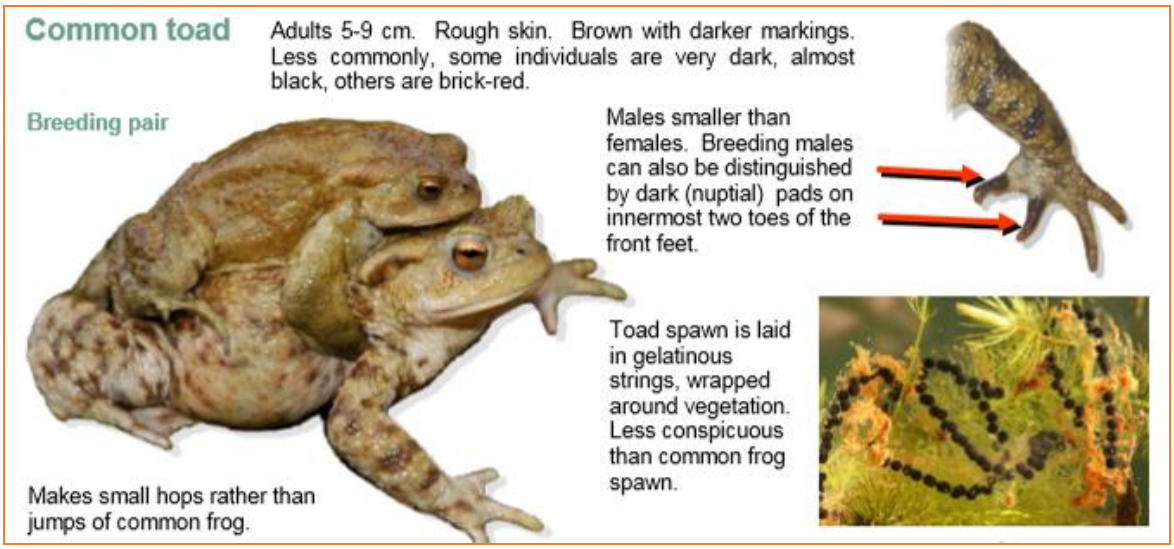
- great crested newt
- common frog *Rana temporaria*
- common toad *Bufo*
- smooth newt *Lissotriton vulgaris*
- palmate newt *Lissotriton helveticus*


Common frog
Adults 6-7 cm. Smooth skin, which appears moist.
Coloration variable, includes brown, yellow and orange. Some females have red markings on lower body.
Usually has a dark 'mask' marking behind the eye.
Breeding male
Grey/pale blue throat.
Thick front legs.
Dark (nuptial) pad on inner toes of the front feet.
Spawn is laid in gelatinous clumps.
Markings also variable, including varying amounts of black spots and stripes.
Young froglets look like smaller versions of the adults.


Palmate newt
Grows to 9 cm. Breeding male has a ridge running along the back, rather than a crest. Dark, webbed hind feet, and tail ends in filament.
Non-breeding male
There are two pale coloured nodules on the underside of the hind feet of the female.
Palmate
Smooth
Throat of palmate newt has no pigment (looks pink). Throat of smooth newt is off-white and usually spotted.
Breeding male
Female
Female looks similar to smooth newt.
Underside (male)
Juveniles live on land.
Juvenile (eft)


Great crested newt
Grows to 16 cm, but usually smaller. Crest in male has break at base of tail. Silvery-white stripe towards rear of tail conspicuous.
Male
Both sexes have rough, granular skins and yellow/ orange bellies with irregular black spots.
Female
Female has no crest and an orange/ yellow stripe running along the lower edge of the tail.
Outside the breeding season the male's crest shrinks to a ridge along the back.
Non-breeding male
Juveniles look like smaller versions of the female and may live on land or in the water.
Juvenile
Strictly protected species, requiring a licence to handle or disturb.
Orange/yellow coloration on underside extends to flanks (not confined to central stripe). This continues along lower edge of tail in females.
Male
Female
Juveniles are similar to females but without any cloacal swelling..
Juvenile


Smooth newt
A widespread species which breeds in a variety of water bodies. Often found in garden ponds.
Male
Female
Grows to about 10 cm. Breeding male has an undulating crest running from head to tail tip.
Male
Female
Non-breeding male
Non-breeding adults live mostly on land. Juveniles live entirely on land.
Juvenile (eft)
Both sexes have an orange or yellow belly stripe and rounded spots, which are larger in the male.



Reptiles

Legal Protection

All native reptiles are protected under Wildlife and Countryside Act (1981, as amended) from:

- Killing or injuring and
- Trading/selling

Identification

There are six species of native reptile within the UK. Of these six, there is potential for the following species to be encountered during the works:

- common European adder *Vipera berus*
- grass snake *Natrix natrix*
- common lizard *Lacerta vivipara* and
- slow worm *Anguis fragilis*

Common European Adder:

Grass Snake:

Common Lizard:

Slow Worm:

- Site preparatory works, including disturbances to scrub habitats, hedgerows, tall ruderal, grassland and any potential refugia, including brash/rubble piles, should avoid the period in which reptiles and amphibians are hibernating (between November and March, inclusive).

- For the initial stages of the development, the clearance of the above habitats/features should be undertaken in a phased manner and preferably under the supervision of an experienced ecologist. Ground vegetation clearance should follow a detailed search around all potential refugia, in a careful and controlled manner, with constant vigilance for any sheltering newts and reptiles.

- Any building materials should be stored on pallets to deter amphibians taking shelter underneath them.

- All site operatives will stay vigilant for the presence of reptiles and amphibians, particularly great crested newts, during the works.

- If great crested newts are found at any point, the works should stop immediately, and an ecologist be appointed to advise the way forward.

- Any amphibians or reptiles if found, will be carefully gathered up by hand by a suitable licensed ecologist and placed in a suitable holding receptacle for safe transportation away from the area of site clearance operations and released. This rescue method will also be extended to any other amphibian species or reptiles found.

- The ecology contact for this activity is **Helen Archer (Principal Ecologist) 07583 802069**