Home Farm,
Overton, Wrexham

Ecology Assessment

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1 Introduction

1.1 Background

Kingdom Ecology have undertaken an Ecology Assessment of an area of land located at Home Farm, Overton, Wrexham, LL13 0HG (National Grid Reference SJ 36209 42806). The proposed works area measures approximately 800 m² and comprises of a mix of existing farm buildings, bare ground, hardstanding, bramble scrub and tall herb. The area of land is located on the edge of the existing farmyard. Proposals are to construct a new agricultural shed with associated parking.

The assessment has been carried out to identify any ecological constraints which should be considered during proposed works. Field surveys were undertaken on the 17th April 2024 by Richard Roe (BSc, MSc, MIEEM, CEnv). Richard has extensive experience of undertaking habitat and protected species surveys as a professional ecological consultant with over twenty years' experience. Richard holds an NRW GCN Licence and a Level 4 FISC.

1.2 Purpose of Report

This report provides the findings of field surveys undertaken at the site. The field surveys comprised of an ecological walkover survey with a search for habitats that could support any protected or notable species. The field survey also examined three ponds located within proximity of the site, with regards to their suitability to support great crested newt.

Following a description of the survey findings and an evaluation of habitats at the site, the report goes on to make recommendations for further works, mitigation and ecological enhancement measures where relevant.

1.3 Protected Species Legislation

1.3.1 Environment (Wales) Act 2016

Section 6 of the Environment (Wales) Act 2016 places a legal obligation on public bodies in Wales to 'maintain and enhance biodiversity' whilst carrying out their functions.

Section 7 of that Act requires Welsh Ministers to publish and maintain lists of species and types of habitats in Wales that are regarded as of 'principal importance' for the purpose of maintaining and enhancing that biodiversity.

This section of the Act replaces the biodiversity duty originally outlined in Section 42 of the NERC Act 2006.

The presence at any proposed development site, of any priority habitat or priority species identified on these lists is of importance within the local authority planning process.

1.3.2 Great Crested Newt

The great crested newt receives full protection under the Wildlife and Countryside Act 1981 (as amended) and through their inclusion in Schedule II of the Habitats Regulations 2010. This legislation makes it an offence to:

- intentionally kill, injure or take a great crested newt;
- disturb a great crested newt;
- intentionally or recklessly damage, destroy, obstruct access to a breeding site or resting place of a great crested newt;
- sell, offer for sale, possess or transport a great crested newt for the purpose of sale.

1.3.3 Birds

All wild birds in England and Wales are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird, or take, damage or destroy the nest (whilst being built or in use) or its eggs.

2 Field Survey Methods

2.1 Survey Aims and Objectives

The survey aim was to assess the site as to its ecological importance by assessing the value of habitats and their suitability to support any protected or notable species. The purpose of this was to highlight any ecological constraints associated with future development proposals.

Survey comprised of an ecological walkover survey of the site, this included an assessment of habitats in terms of their suitability to support any protected species including great crested newt and breeding birds.

Species that are considered unlikely to be significantly affected by the proposed development, even if known to be present in the general vicinity, were 'scoped out' of the assessment.

2.2 Survey Methods

2.2.1 Ecological Walkover Survey

An Ecological Walkover of the site was undertaken on the on the 17th April 2024.

The aims of the walkover survey were to:

- identify areas or habitats that are of particular ecological interest for nature conservation and which require more detailed investigation;
- provide a broad botanical description of habitats present;
- provide additional information regarding incidental observations of protected species or non-native, invasive species;
- to assess the site as to its ecological importance by assessing the value of habitats and their suitability to support any protected or notable species (including badgers, bats and breeding birds).

A map of the study site is shown in Figure 1. Typical habitats recorded at the site are also shown in photographs in the Appendix.

2.2.2 Habitat Suitability Index Assessment

Three ponds were identified from ordnance survey maps and aerial photography as being within 250m of the proposed works areas. Pond locations are shown on Figures 1 in the Appendix.

Each of the ponds was visited during initial walkover surveys carried out on the 17th April 2024. Where accessible, each pond was searched for great crested newt eggs.

In addition, each pond was assessed as to its suitability to support great crested newt by assessing habitats present.

This assessment followed the Habitat Suitability Index (HSI) Guidelines as produced by the National Amphibian and Reptile Recording Scheme (NARRS 2008[1]) which in turn are based on a paper produced by Oldham et al. (2000[2]).

The HSI examines ten key habitat features of a site in order to produce a numerical score of between 0 and 1. This score signifies the suitability of a pond as defined in Table 1.

The habitat features evaluated/measured to obtain the habitat suitability index are as follows: -

- Geographic location,
- Pond area,
- Pond permanence,
- Water quality,
- Pond shading,
- Number of waterfowl,
- Occurrence of fish,
- Pond density,
- Terrestrial habitat,
- Macrophyte cover.

Table 1- HSI Score Categories

HSI	***Pond Suitability***
<0.5	**Poor**
0.5-0.59	**Below Average**
0.6-0.69	**Average**
0.7-0.79	**Above Average**
>0.8	**Excellent**

[1] NARRS (2008) 'Great Crested Newt Habitat Suitability Index'

[2] Oldham R.S et al (2000) 'Evaluating the suitability of habitat of the Great Crested Newt (*Triturus cristatus*)'. Herpetological Journal 10 (4), 142-155

3 Survey Results

3.1 Site Description

The study site comprises of an approximate 800 m² area of disused land located on the north-eastern edge of the farmyard at Home Farm, Overton.

Habitats to the south and west of the study area comprise of hardstanding farmyard. Whilst habitats to the north and east comprise of species-poor, agricultural grassland. There are three ponds located within 250 m of the site, the closest of which is located approximately 50 m to the east of the study site. The site location and surrounding ponds are shown on Figure 1 in the Appendix.

Habitats in the study area include an existing farm building/grain hopper plus areas of bare ground, hardstanding, bramble scrub, rank grassland and tall herbaceous vegetation.

Habitats are target noted and shown on Figure 2 in the Appendix. Habitats are described below. Photographs of habitats are also provided in the Appendix.

3.2 Habitats

The proposed development area comprises of an area of former agricultural buildings with areas of hardstanding and surrounding patches of ruderal habitat. The site is accessed via a farmgate from the adjacent farmyard with a track leading through the site, to an adjacent area of agricultural grassland located to the east of the site (Target Note 5). There are some piles of stored materials located adjacent to the track including broken pallets, a gravel pile and some corrugated fibre cement roofing sheets.

The existing agricultural building comprises of a circular grain hopper constructed of corrugated tin panelling. There is an area of hardstanding decking which extends between the access gate and the outbuilding. There are two circular sections of concrete plinth which would have each supported further hopper/outbuildings in the past.

There are patches of dense bramble scrub located along the edges of the northern half site (Target Note 1 on Figure 2). The bramble scrub include patches of nettle, creeping thistle, hogweed, white dead nettle and some young woody scrub including hawthorn and elder.

Land to the south of the farm track (Target Note 2) comprises of ruderal herbs and rough grasses. Grasses comprise principally of Yorkshire fog with patches of cock's foot. Herbs present include nettle, dandelion, hogweed, broadleaved dock and white dead-nettle. There is an old log present where a tree has been removed in the past.

Habitats on site are considered to be of relatively low conservation value and are typical of such areas of disused/neglected land located on the edges of farmyards.

3.3 Protected Species

3.3.1 Great Crested Newt

There are three ponds located within 250 m of the study site. These comprise the following:

Pond 1- This pond is located relatively close to propose development site (approximately 50 m to the east of the site). The pond measures approximately 100 m² in area. The pond is overgrown with vegetation comprising of floating sweet-grass, water crowfoot, water starwort and water cress. There are no areas of open water. The pond appeared to have relatively good water quality. The pond is relatively shallow and so it may occasionally dry out. Great crested newt and smooth newt eggs were found within the pond. This pond achieved a Habitat Suitability Index (HSI) score of 0.8, indicating it to be of 'excellent' suitability for great crested newt. Habitat index scores provided in Table 2 below.

Pond 2- This pond is located approximately 125m north of the site on the edge of a pasture field. The pond is enclosed within dense bramble scrub the pond interior is succeeding to willow scrub. The pond is heavily shaded and does not support any significant areas of aquatic vegetation. The pond measures approximately 250 m² in area. Owing to the dense vegetation around the pond perimeter, it was not possible to carry out an egg search of the pond. It would also not be possible to carry out any other form of presence/absence survey. This pond achieved a HSI score of 0.58, indicating it to be of 'below average' suitability for great crested newt.

Pond 3- This pond is located approximately 140 m to the south of the site. The pond is located within a field corner, immediately adjacent to a farm track. The pond is relatively shallow and appears likely to dry out during the summer. The pond supports approximately 70% cover of vegetation comprising of floating sweet-grass, creeping buttercup and there are patches of broadleaved dock throughout indicating pond is likely regularly dry out. The pond supports a thick cover of blanket weed indicating nutrient enrichment. There is a single mature oak tree located on the boundary of the pond. The pond is relatively small , measuring approximately 100 m². This pond achieved a HSI score of 0.58, indicating it to be of 'below average' suitability for great crested newt.

With regards to the proposed development site, the area offers some areas of terrestrial habitat which could be suitable for great crested newt.

Potential newt habitat is offered within areas of tall herb habitat, bramble and beneath stored farm materials around the perimeter of the site. There is a short length of concrete and stone wall running along the site boundary adjacent farmyard. There are crevices between the stone blocks offering further potential newt refuge habitat.

Great crested newt have been confirmed as present within Pond 1. Given the proximity of the pond to the proposed development area, there is considered to be a reasonable risk that great crested newt could use terrestrial habitats around the fringes of the works area.

However, given the relatively small size of these areas of habitats, it is considered to be very unlikely that great crested newt would be present in any significant numbers.

There are further areas of suitable great crested newt terrestrial habitat located immediately adjacent to Pond 1 including areas of hedge, young trees and rough grassland habitat (Targets Note 4).

It is considered to be unlikely that Ponds 2 or 3 would support great crested newt or that any hypothetical population associated with these ponds would be affected by development proposals.

3.3.2 Breeding Birds

The areas of bramble scrub present could support nesting birds during the breeding bird season.

3.3.3 Other Protected Species

It is considered to be very unlikely that any other protected species will be affected by development proposals. The farm building/grain hopper is not considered to be suitable for roosting bats.

Table 2- Habitat Suitability Index Assessment Results

Pond ref	***1***	***2***	***3***
SI1 - Location	*1*	*1*	*1*
SI2 - Pond area	*0.2*	*0.5*	*0.2*
SI3 - Pond drying	*1*	*0.9*	*0.1*
SI4 - Water quality	*1*	*0.33*	*0.33*
SI4 - Shade	*1*	*0.2*	*1*
SI6 - Fowl	*1*	*1*	*1*
SI7 - Fish	*1*	*0.67*	*1*
SI8 - Ponds	*1*	*1*	*1*
SI9 - Terr'l habitat	*0.67*	*0.67*	*0.67*
SI10- Macrophytes	*0.8*	*0.3*	*0.9*
HSI	***0.80***	***0.58***	***0.58***

4 Summary & Recommendations

4.1 Habitats

The study site comprises of an approximate 800 m² area of disused land located on the north-eastern edge of the farmyard at Home Farm, Overton.

Development proposals are to construct a new farm outbuilding with associated hardstanding access and parking. A small triangular parcel of land at the south-east end of the site would remain undeveloped.

Habitats within the proposed development area are largely highly modified including existing areas of hardstanding, an existing farm building, concrete plinths and areas of bare ground. There are some areas of ruderal vegetation which has developed around the farm buildings and areas of hardstanding. These include patches of bramble, rank grasses and tall herb habitats.

Habitats on site are considered to be of relatively low conservation value and are typical of such areas of disused/neglected land located on the edges of farmyards.

4.2 Protected Species

4.2.1 Great Crested Newt Summary

There are three ponds located within 250 m of the proposed development area. The closest pond (Pond 1 on Figure 1 and 2) was found to support great crested newt. This pond is located approximately 50 m to the east of the development area and was found to support habitats of 'excellent' suitability for great crested newt. The other two ponds are less suitable for great crested newt (assessed as being 'below average' suitability) and are located over 100 m away from the proposed development site.

The development site offers some areas of suitable terrestrial habitat for great crested newt within areas of tall herb habitat, bramble, within areas of low, stone wall and beneath stored farm materials around the perimeter of the site.

Given the proximity of Pond 1 to the proposed development area, there is considered to be a reasonable risk that great crested newt could use terrestrial habitats around the fringes of the proposed development area.

However, given the relatively small size of these areas of suitable habitat, it is considered to be very unlikely that great crested newt would be present in any significant numbers.

Nevertheless, any works to develop the site would need to be undertaken under a European Protected Species Licence as issued by Natural Resources Wales (NRW).

4.2.2 Great Crested Newt Mitigation Strategy

As part of any future site development, a mitigation strategy would need to be developed for the site and agreed with NRW. The mitigation strategy should aim to safely remove great crested newt from the site and to prevent them from accessing the site during construction. The mitigation strategy would also need to provide some replacement terrestrial habitats for great crested newt.

Full details of measures to safely remove great crested newt from the proposed development site would be contained within the associated method statement attached to the European Protected Species derogation license.

Given the small size of the development site and the limited extent of suitable habitat features, it is considered to be likely that the site would only support very small numbers of great crested newt.

Therefore, an appropriate strategy to safely clear newts from the site would need to be devised. This should be proportionate to the likely low significance of the site for great crested newt.

New great crested Newt mitigation habitat should be created adjacent to Pond 1 (see Figure 2). There is an existing area of rough grassland in this location (Targets Note 4). It is proposed that this area is retained exclusively for great crested newt. The area should be stock fenced and allowed to naturally develop into a scrub habitat.

In addition, two newt hibernacula should be constructed in this location. The hibernacula should follow standard designs as provided in English Nature's *Great Crested Newt Mitigation Guidelines* (August 2001). Hibernaculum design shown in Figure 3 below.

The hibernacula should measure approximately 2 m in length x 1 m in width by 1 m in height. The hibernacula should be constructed within a shallow depression (approximately 400 mm in depth). The base layer of the hibernacula will comprise of clean fill comprising of brick rubble, logs, sleepers, hard-core etc with loose topsoil. The base layer should be left exposed at ground level and to a height of up approximately 200 mm above ground level, to allow amphibians to crawl into exposed crevices. This layer of fill would extend to approximately 600 mm in height. The top of the hibernacula would be capped with an approximate 300 mm of topsoil and capped with a layer of turf.

The hibernacula would be constructed in advance of site clearance within the proposed ecology mitigation area. The hibernacula will provide a receptor site for any amphibians encountered during site clearance works.

Following the construction of the newt hibernacula, an initial toolbox talk should be given to the site contractors by the licensed great crested newt worker. The toolbox talk will work through the EPS method statement strategy, will describe great crested newt ecology and legal protection, and will work through measures to be followed in the event that a great crested newt is found within the development area.

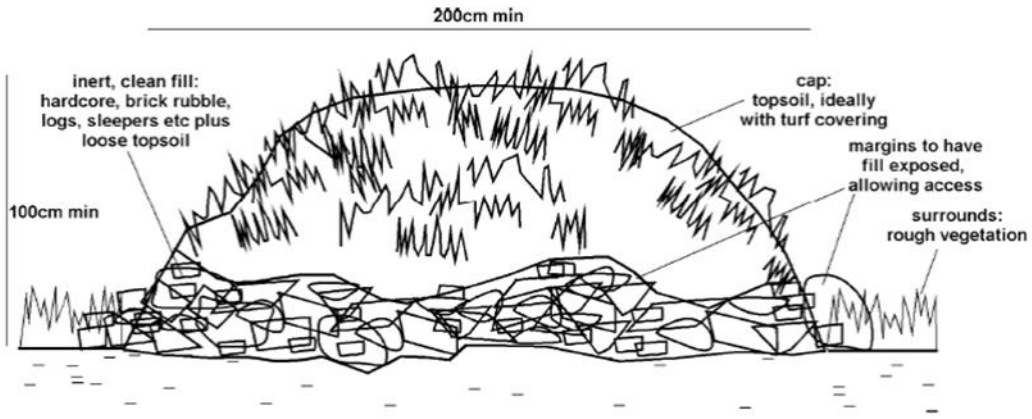
There are areas of bramble and tall herbaceous vegetation located around the perimeters of the site. These include patches of nettle, bramble and thistle plus patches of ruderal grassland. The vegetation offers some terrestrial habitat of marginal value for great crested newt. It is recommended that this herbaceous habitat is cut back to a height of 10 cm at least four weeks prior to site clearance to discourage newts from using these areas of habitat.

There are various scattered items around the site including broken pallets, stone wall and some corrugated fibre cement roofing sheets. These should be carefully lifted/removed and checked beneath for any amphibians prior to full site clearance. Any encountered newts should be moved to suitable habitats located around Pond 1.

Once the vegetation has been cut back, it is recommended that the site is left for at least one week to allow any newts present to naturally disperse from the site. It is then recommended that one-way, temporary amphibian fencing is installed around the southern and eastern perimeters of the site. The amphibian fencing should follow the standard design as provided in English Nature's *Great Crested Newt Mitigation Guidelines* (August 2001). The fencing should be appropriately angled to allow newts to leave the site but preventing them from accessing the site. The amphibian fencing should be left in place for at least three weeks prior to the start of site clearance to allow any remaining amphibians to leave the site. The fencing should be retained in place for the entirety of the construction period.

In the unlikely event that a newt of any kind is encountered during construction works, works within vicinity of the newt should immediately stop and advice sought from the named ecologist on the EPS licence.

Figure 3: Suggested hibernaculum design
This design mimics artificial and natural conditions in which great crested newts have frequently been found over-wintering. Dimensions should not be below 2m length x 1m width x 1m height. The illustrated design would be suitable for locating on an impermeable substrate. On free-draining substrates, the design is largely similar but the bulk of the fill is sited in an excavated depression in the ground. Hibernacula should ideally be positioned across a site, both close to and distant from breeding ponds, always in suitable terrestrial habitat and above the flood-line.



4.2.3 Breeding Birds

The areas of bramble scrub around the edges of the site could support nesting birds during the breeding bird season.

It is therefore recommended that any works to remove/manage tall vegetation avoid taking place during the breeding bird season (March-August inclusive). Where this is not possible, a check for nesting birds should be completed immediately prior to removal by an appropriately qualified ecologist.

It is recommended that a bird box scheme is produced for the site including suitable nesting features for house sparrows which can be fitted to the exterior of the proposed new farm outbuilding. It is recommended that 4 x sparrow boxes are installed on the northern and eastern faces of the new farm outbuilding. The house sparrow boxes should be located at a minimum height of 2 m.

4.3 Green Infrastructure Statement

4.3.1 Overview

Chapter 6 of the updated planning policy Wales (PPW) Version 12 includes key changes to planning policy in Wales including green infrastructure and net benefit for biodiversity.

The quality of the built environment should be enhanced by integrating green infrastructure into development through appropriate site selection and use of creative design (PPW, Para 6.2.11).

A green infrastructure statement should be submitted with all planning applications. This must be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal (PPW, Para 6.2.12).

4.3.2 Net Benefit and the Step-Wise Approach

The updated PPW states that Planning authorities must seek to maintain and enhance biodiversity in the exercise of their functions. This means development should not cause any significant loss of habitats or populations of species, locally or nationally and must work alongside nature and it must provide a net benefit for biodiversity and improve, or enable the improvement, of the resilience of ecosystems (PPW, Para 6.4.5)

Planning authorities must follow a step-wise approach to maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for. Enhancement must be secured by delivering a biodiversity benefit primarily on site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact (PPW, Para 6.4.11).

As part of the development proposals at Home Farm, the application has considered recent changes within PPW 12 including adoption of the 'step-wise' approach to retention and incorporation of green infrastructure within the development and to ensure that the development delivers a net benefit for biodiversity.

The stepwise approach requires the design of a development to follow the mitigation hierarchy whereby the proposals should initially avoid damage to biodiversity; where this is not possible proposals should minimise the impacts on biodiversity through appropriate locational, siting and design options; where measures to minimise impact on biodiversity and ecosystems could still result in damage or loss, the proposed development should mitigate that damage.

Where like for like mitigation measures are not possible, it may be necessary to consider on site compensation measures in the first instance. As a last resort, off-site compensation for unavoidable damage must be provided.

4.3.3 Green Infrastructure Statement

As described earlier in this report, the ecological baseline of the site was established through ecological site surveys completed by Kingdom Ecology Ltd in April 2024.

Development proposals are to construct a new farm outbuilding with associated hardstanding access and parking.

Habitats within the proposed development area are largely highly modified including existing areas of hardstanding, an existing farm building, concrete plinths and areas of bare ground. There are some areas of ruderal vegetation which has developed around the farm building and areas of hardstanding. These include patches of bramble, rank grasses and tall herb habitats.

Habitats on site are considered to be of relatively low conservation value and are typical of such areas of disused/neglected land located on the edges of farmyards. Therefore, the siting of the proposed new agricultural building within this location would avoid impacts upon areas of more valuable habitat around the farm, with affected habitats largely comprising of existing areas of hardstanding and low value ruderal vegetation. A small triangular parcel of tall herbaceous habitat land at the south-east end of the site would remain undeveloped.

The field surveys identified the presence of great crested newt within a pond located to the east of the proposed development area. The surveys identified a low risk of great crested newt presence on the proposed development site.

Proposed works would be carried out under a NRW European Protected Species Licence. An outline great crested newt Method Statement has been produced which would avoid direct impacts to individual great crested newt. An on-site ecologist would be appointed to ensure that the Method Statement is followed.

The proposed works will result in the loss of potential low value great crested newt habitat. However, this impact has been minimised through the selection of the site location within an area of relatively low value habitat.

Recommendations within this report include the creation of 2 x great crested newt hibernacula which will be located adjacent to the identified breeding pond. The newt hibernacula will be located within the area of unmanaged land which will be fenced off from the adjacent farmland. The provision of the two hibernacula will more than mitigate for the loss of low value newt habitat on site and will contribute towards a Net Biodiversity Benefit.

Further site enhancements will be provided through the inclusion of sparrow nesting boxes which will be attached to the exterior of the proposed outbuilding.

5 Appendix

PHOTOGRAPHS

Photograph 1- Aerial view of site viewed from North



Photograph 2- Habitats within northern half of site



Photograph 3- Potential GCN habitats at site



Photograph 4- Habitats at Target Note 2



Photograph 5- Pond 1



Photograph 6- Pond 2



Photograph 7- Pond 3



Photograph 8- Proposed GCN mitigation area

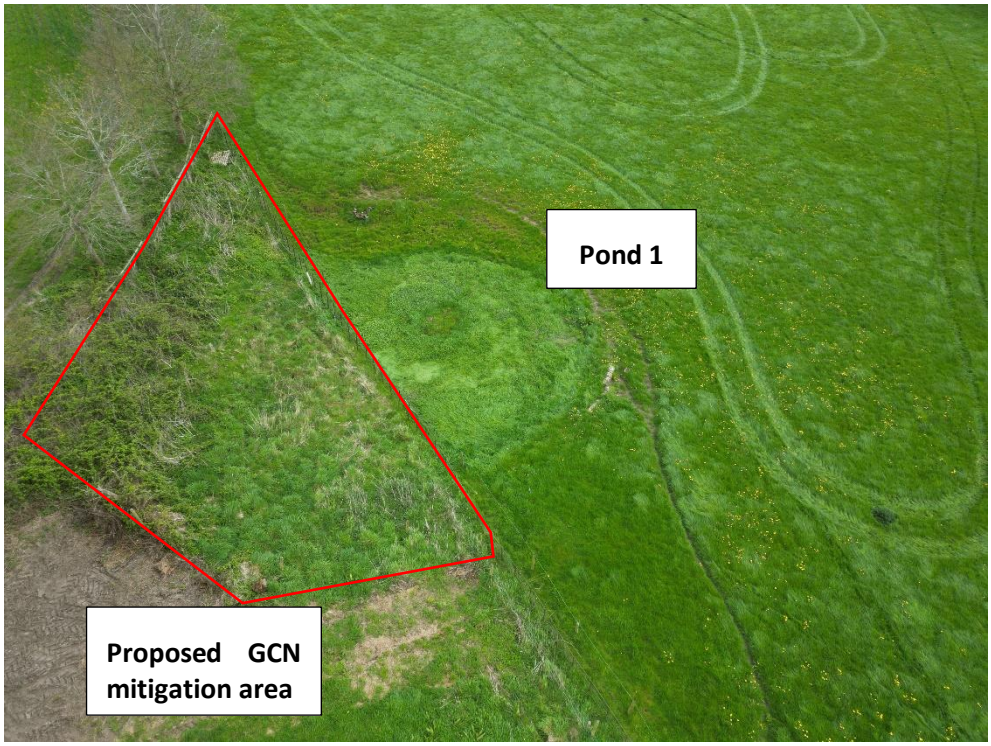
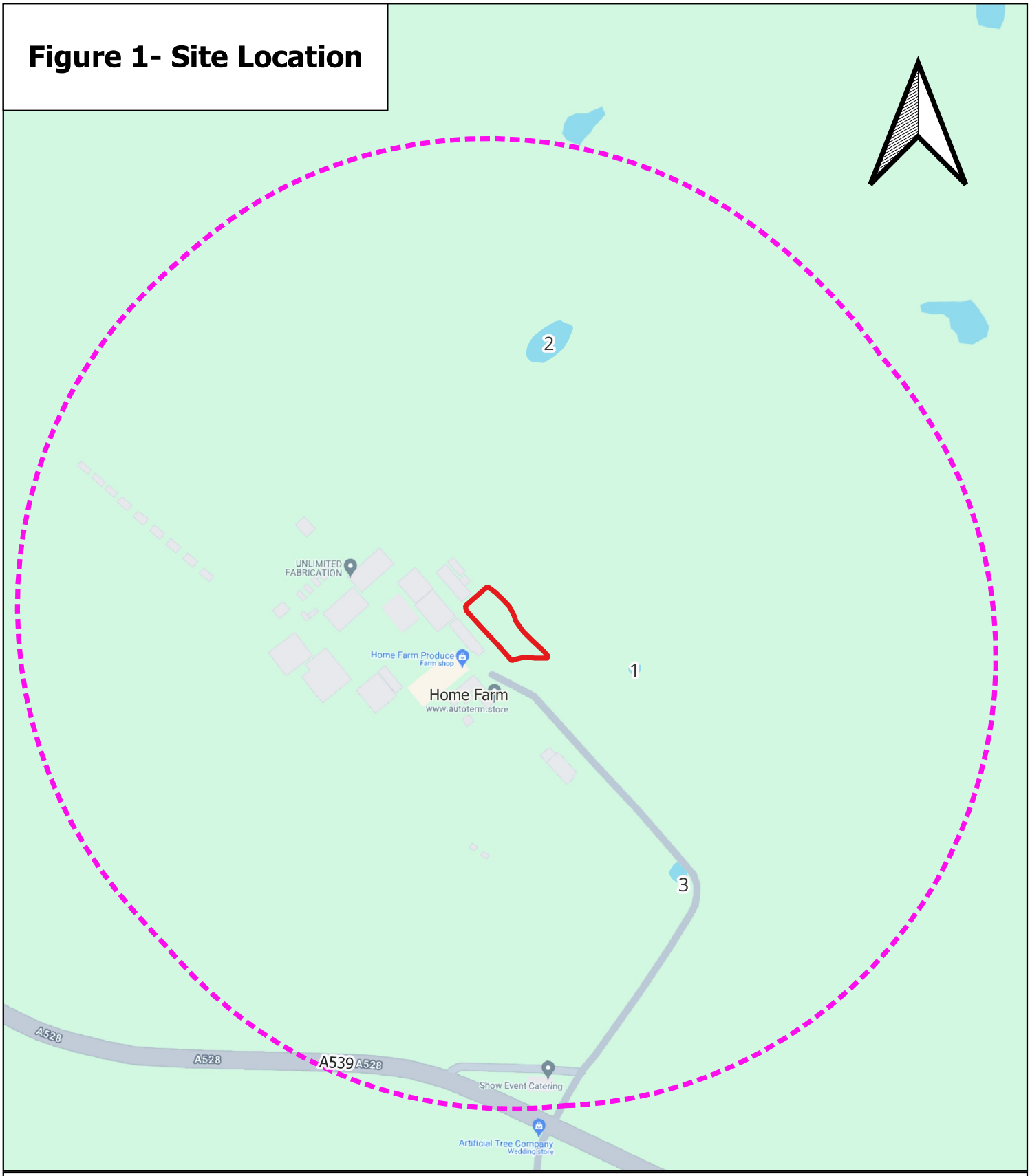


Figure 1- Site Location



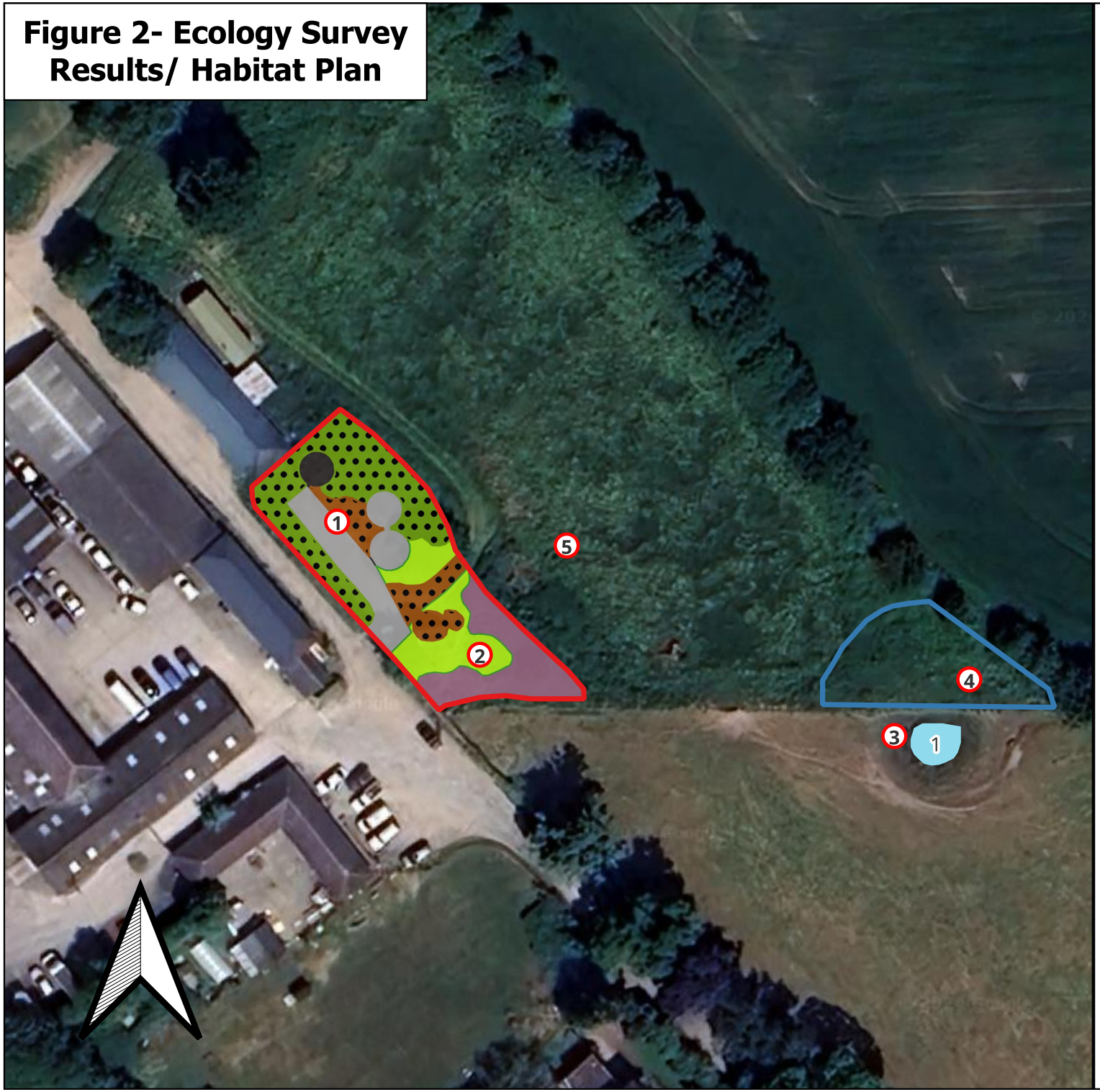
Key

0 50 100 150 200 m

- Study Site
- 250m buffer
- Ponds

Ordnance Survey data © Crown copyright and database right 2024

Figure 2- Ecology Survey Results/ Habitat Plan



KEY

- Red line
- Proposed mitigation area
- Target Note
- Ponds
- Developed/Sealed Surface
- Buildings
- Bare Ground
- Ephemeral/Ruderal Vegetation
- Modified Grassland
- Bramble

0 10 20 30 40 50 m

Map data ©2024 Google