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Land at Halghton Villa, Horseman's Green

Ecological Appraisal

Land at Halghton Villa
Horseman's Green
Wrexham
SY13 3DY

Produced by P J Ecological Solutions on behalf of Mr Huxley

May 2025

Version 1

Report by Matthew Whitehead
Reviewed by Paul Roberts

Executive Summary

Introduction
P J Ecological Solutions were commissioned by Mr Huxley to undertake an ecological appraisal of a parcel of land at Halghton Villa, Horseman's Green. The survey was commissioned to inform a planning application for the siting of a new slurry lagoon.

The site comprises part of a cattle-grazed field characterised by improved grassland. The field extends >50m from the site boundaries to the northwest, northeast and southeast, and an area of hardstanding, currently used to store agricultural machinery, lies immediately to the southwest, beyond which is situated the Halghton Villa farmyard.

Habitats
The proposed development will result in the loss of ~0.4ha of the improved grassland which characterises the site. This is unavoidable to facilitate the siting of the proposed lagoon and the creation of access thereto.

Improved grassland is not a protected habitat or habitat of principal importance and is generally considered to have only very low ecological value. As such, the loss of this habitat is likely to have an adverse ecological impact of only low local significance.

However, as compensation for this loss, and to ensure that the proposed development results in an overall net benefit for biodiversity, it has been agreed that ~180m of new native species-rich hedge is to be planted to bound the northwest, northeast and southeast boundaries of the new lagoon. Once established, this will provide a new source of direct and indirect forage for a variety of invertebrate, wild bird and small mammal species, as well as nesting opportunities for wild birds, the ecological value of which is expected to far exceed that of the area of improved grassland to be lost.

In addition, as further biodiversity enhancement provisions, it has been agreed that both a Vivara Pro House Sparrow WoodStone Nest Box (Double Chamber) and a Vivara Pro Beaumaris WoodStone Bat Box (Midi) will be installed upon one of the existing agricultural buildings on site.

Common Herpetofauna
The grazed pasture which characterises the site is not suitable habitat for any common herpetofauna. However, local records of several great crested newt were retrieved during the desk study (~500m from the site boundary) and there are at least four bodies of standing water (ponds) within 250m of the site. Of these ponds, three were assessed as having 'below average' suitability for great crested newt and one was assessed as having 'good' suitability for great crested newt.

The Natural England Great Crested Newt Licence rapid assessment tool has been used to assess the risk of committing an offence in relation to great crested newt. The assessment determined that, even in the 'worst case' scenario (i.e., if great crested newts are breeding in all of the ponds identified and no reasonable avoidance measures are adopted), an offence is highly unlikely to be committed via the destruction of the habitat upon the 0.8ha site.

Given the results of the rapid risk assessment, no further surveys of the ponds are recommended. However, out of an abundance of caution, it has been agreed that the works will be undertaken in strict accordance with a suitable precautionary method of working (see Appendix 2).

Badgers, Hedgehogs, and Other Wildlife

To ensure that any badgers, hedgehogs, or other wildlife which strays upon the site do not become trapped in any trenches, culverts or workings, any created in the course of the works will be fitted with sloping escape ramps, which may be achieved by edge profiling of trenches/excavations or by placing rough-sawn planks into them at the end of each working day. Chemicals will be kept secure, and the site will be made safe at the end of each working day. Should any badgers or other protected species be encountered during the works, works will immediately cease, and a suitable qualified ecologist will be contacted for advice.

To deter such species from establishing upon or travelling across the site, the grassland will be maintained at the existing short sward until the development works begin.

N.B: The site is considered wholly unsuited to the needs of any arboreal mammals or riparian mammals, and no invasive non-native species were identified anywhere upon or immediate to the site.

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1 Introduction

P J Ecological Solutions were commissioned by Mr Huxley to undertake an ecological appraisal of a parcel of land at Halghton Villa, Horseman's Green, Wrexham, SY13 3DY (Grid Reference: SJ44494077; hereafter referred to as 'the site'). The survey was commissioned to inform a planning application for the siting of a new slurry lagoon.

The site is set in a rural position, upon the northeast periphery of the active farmyard, ~340m south of the village of Horseman's Green (see Figure 1). The farmyard is immediately surrounded by agricultural land – primarily cattle grazed pasture – through which runs a somewhat depleted but extant network of native boundary hedgerows with trees, which will provide ecological connectivity between the site and nearby habitats of importance. A small tributary to Cumber's Brook runs west ~205m south of the site, and there are at least four bodies of standing water within 250m of the site.

A detailed desk study of the surrounding area has been undertaken, in addition to an extended Phase 1 survey of the site. The aim of these efforts/this appraisal is to:

- Detail the habitat types within and immediately adjacent to the application area.
- Identify both habitat and species constraints pertinent to the development proposals.
- Detail EPS licensing requirements, reasonable avoidance measures, mitigation, and compensation measures where necessary.
- Identify opportunities for the proposed development to provide enhancements and add to the biodiversity resource within the site.

This is in accordance with TAN 5 (Technical Advice Note 5), Nature Conservation and Planning, to enable an assessment of impacts and mitigation to negate impact as a consideration, material to the determination of planning requirements.

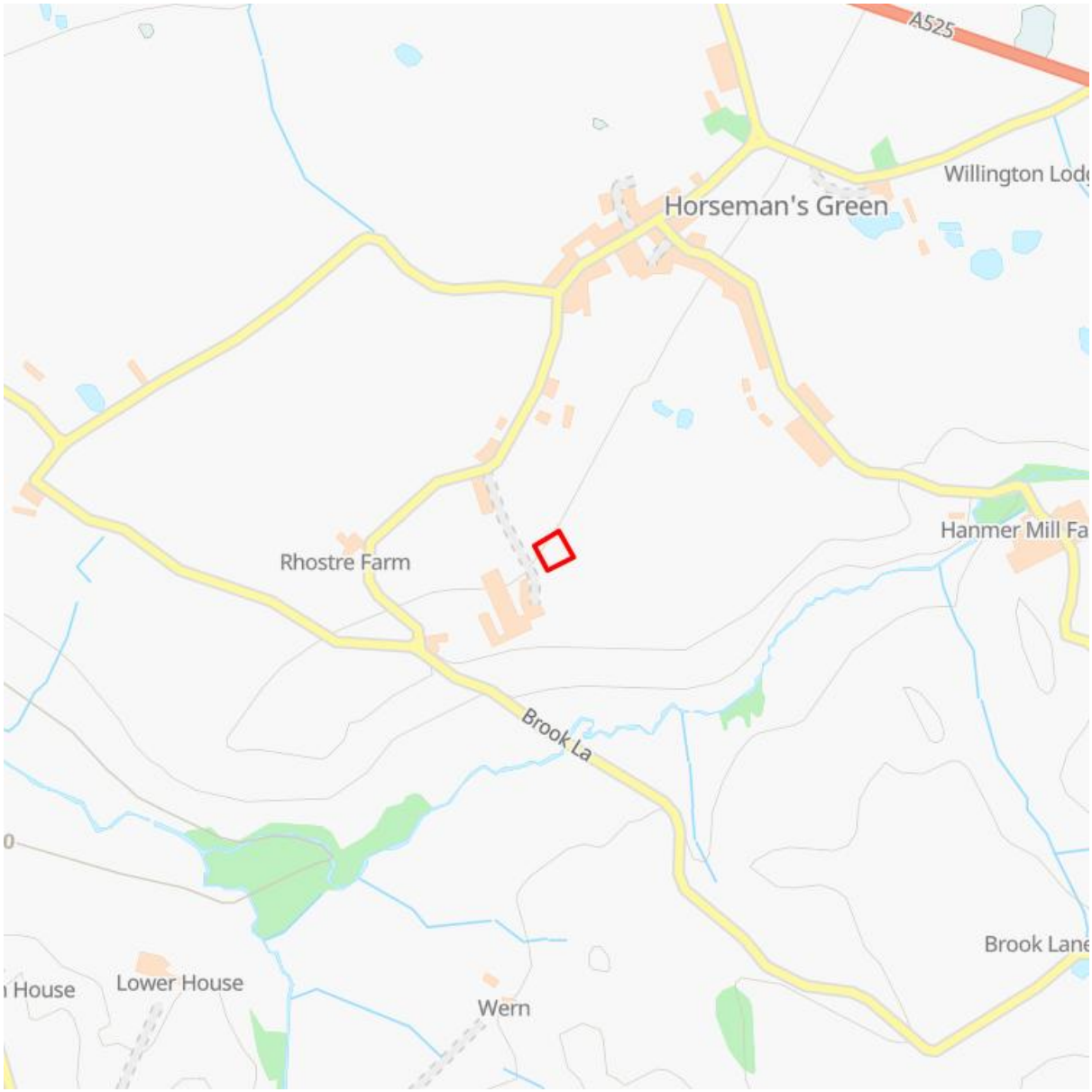


Figure 1.1: A 1:10,000 map view showing the site location and the surrounding habitats.

2 Method

2.1 Desk Study

2.1.1 Statutory and Non-Statutory Designated Sites

A desk-based study was undertaken to identify nearby habitats of importance and features providing local habitat connectivity, and to identify the presence of statutory and non-statutory designated sites within the vicinity of the site. These include:

- ***International recognised statutory designations:*** Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites.

- ***National recognised statutory designations:*** Sites of Special Scientific Interest (SSSIs) and National Nature Reserves (NNRs)

- ***Local level non-statutory designations:*** County Wildlife Sites (CWSs), Local Nature Reserves (LNRs), Sites of Importance for Nature Conservation (SINCs), North Wales Wildlife Trust Reserves (NWWT reserves), and Royal Society for the Protection of Birds Reserves (RSPB reserves)

The statutory site search (1km radius) was carried out using the Multi-Agency Geographic Information for the Countryside (MAGIC) and Natural Resources Wales (NRW) websites' interactive mapping applications, and the NRW website's Designated Site Search function. A search for non-statutory sites was undertaken via informal means.

2.1.2 Species Records Pertinent to the Assessment

The desk-based study was extended to identify nearby records of protected species or species of principal importance, or of invasive non-native species. These include:

- ***European Protected Species:*** Species listed under Schedule II and V of the *Conservation of Habitats and Species Regulations 2017*.

- ***Specially Protected Bird, Animal and Plant Species:*** Species listed under Schedules I, V and VII of the *Wildlife and Countryside Act 1981 (as amended).*

- ***Species of Principal Importance:*** Species listed under Section VII of the *Environment (Wales) Act 2016*.

- ***Badgers:*** Badgers are protected under the *Protection of Badgers Act 1992*

- ***Invasive Non-Native Species:*** Species listed within the *Invasive Alien Species (Enforcement and Permitting) Order 2019* or within Schedule IX of the *Wildlife and Countryside Act 1981* (as amended).

A full records search from the local environmental records centre has not been undertaken at this stage of the project; however, a 1km-radius search for species records was undertaken using the interactive mapping applications available on the MAGIC, DataMapWales and National Biodiversity Network (NBN) websites. Local anecdotal records were also provided by the clients and various neighbouring landowners.

2.2 Extended Phase 1 Survey

2.2.1 Phase 1 Survey

The extended Phase 1 survey of the site was undertaken on the 18th of March 2025 by Paul Roberts UCert (NRW Survey License Numbers S091932/1 [Bats] and S093710/1 (an accredited agent) [Great Crested Newts]) and Matthew Whitehead BSc (Hons) MRSB (an accredited agent upon the bat license), both of whom are experienced ecological consultants familiar with the local area. Habitats were assessed by using Phase 1 habitat survey techniques, according to the methodology outlined in the *'Handbook for Phase 1 habitat survey'* (JNCC, 2010), which is a system for environmental audit widely used within the environmental consultancy field.

The survey was undertaken in clear and dry conditions, during a time of year which is within the active season for most British wildlife and annual plant species. As such, the appraisal was not considered to have been limited by any seasonal or climatic factors.

2.2.2 Species Surveys

A methodical search was undertaken for the following species, or field signs or other evidence thereof. In addition, the site and its immediate surrounds were assessed for their potential to support the following species, or to provide other ecological services to the following species:

- ***Wild Birds***: The site and its surrounds were searched for active or historical wild bird nests or evidence thereof. The site and its surrounds were also assessed for their potential to provide nesting opportunities for wild birds, or to provide foraging utility or habitat connectivity for wild birds. The survey was undertaken in accordance with the methods described within *'Common Standards Monitoring Guidance for Birds'* (Baker and Douse, 2004).

- ***Bats*:** The site and its surrounds were searched for structures or trees which could provide roosting opportunities for bats, and the habitats upon and surrounding the site were also assessed for their capacity to provide foraging opportunities for local bat species, and to provide habitat connectivity between nearby roosts and known foraging grounds. The survey was undertaken in accordance with the methodology prescribed within '*Bat Surveys for Professional Ecologists'* (BCT, 2023).

- ***Badgers*:** The site and its surrounds were searched for field signs indicative of badger (*Meles meles*) activity, such as setts, bedding material, latrines, guard hairs, scrapings produced during foraging behaviour, paths and paw prints. The site and its surround were also assessed for their potential to support badgers, or to provide foraging utility or habitat connectivity for badgers. The survey was undertaken in accordance with the methods described within *'Surveying Badgers'* (Harris, Cresswell and Jefferies, 1989).

- ***Arboreal Mammals (Hazel Dormouse, Red Squirrel and Pine Marten):*** The site and its surrounds were searched for field signs indicative of dormouse (*Muscardinus avellanarius*), red squirrel (*Sciurus vulgaris*) or pine marten (*Martes martes*), such as refuges or feeding remains (dormouse) or scat (pine marten), and for habitats suitable for the species, such as woodland/suitable hedges with a good under-storey/shrub layer and a range of food plant species, such as oak, hazel, bramble, honeysuckle, bilberry and rowan. The survey was undertaken in accordance with the methods described within '*The Dormouse Conservation Handbook, [2nd edn.]'* (Bright, Morris and Mitchell-Jones, 2006) and considering the habitat requirements outlined in *'Red Squirrel Conservation'* (Pepper and Patterson, 1998) and *'Conserving the Red Squirrel*' (Gurnell and Pepper, 1991).

- ***Riparian Mammals (Otter and Water Vole):*** The site and its surrounds were searched for field signs or habitats characteristic of otter (*Lutra lutra*) or water vole (*Arvicola amphibius*). The survey was based on the methods described within *'The Water Vole Conservation Handbook*' (Strachen, Moorhouse and Gelling, 2011) and *Essex Otter Survey, 2009-2010* (Darren Tansley, 2011).

- ***Common Herpetofauna (Reptiles and Amphibians):*** The site and its surround were assessed for their potential to support reptiles or amphibians. Key aspects considered included the habitats present upon/surrounding the site, the extent of the site, site aspect, connectivity and historic content. The survey was based on the methods described within *'The Herpetofauna Workers' Manual'* (Gent and Gibson, 2003). The suitability of any bodies of standing water for great crested newts (250m radius) was assessed using the Habitat Suitability Index detailed in *ARG UK Advice Note 5* (ARGUK, 2010).

- **Other Priority Wildlife:** A search for other species of principal importance (species listed under Section 7 of the *Environment [Wales] Act 2016*) suited to the habitats within or surrounding the site, was undertaken based on the methods described in *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation* (Birks *et al*, 2012).

- ***Invasive Non-native Species (INNS):*** A careful search was undertaken for floral species listed within the *Invasive Alien Species (Enforcement and Permitting) Order 2019* or within Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended).

3 Results

3.1 Desk Study

3.1.1 Statutory and Non-Statutory Designated Sites

A review of the information retrieved during the desk study identified no statutory designated sites within 1km of the site (see Figure 3.1). As such and given the nature and modest size of the proposals, no adverse impacts upon any such sites are expected because of the proposed development.

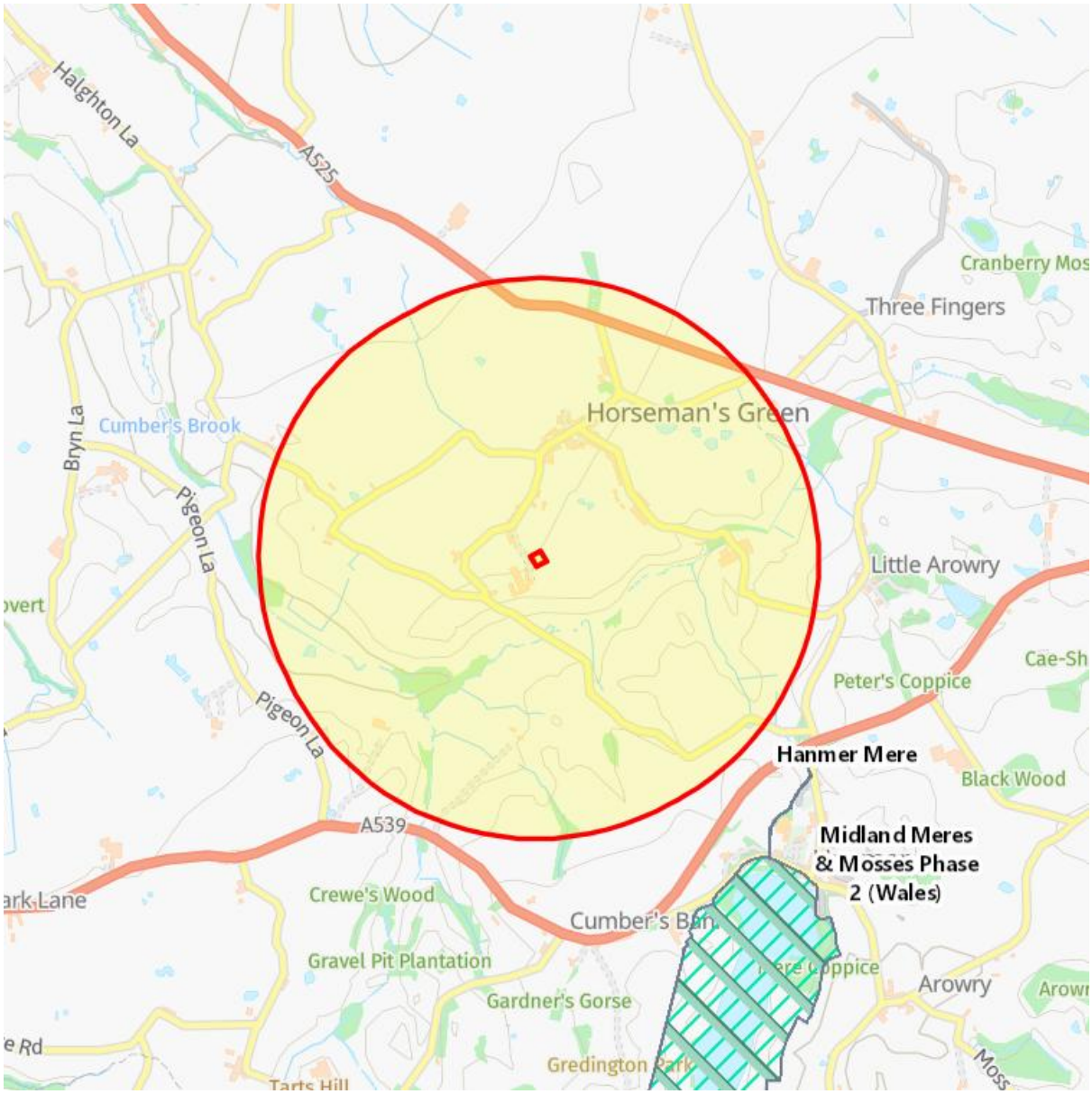


Figure 3.1: A 1:25,000 map view of the site relative to local designated sites.

3.1.2 Species Records and Habitats Pertinent to the Assessment

A review of the species records retrieved during the data search identified local records of otter (*Lutra lutra*), brown long-eared bat (*Plecotus auritus*) and great crested newt (*Triturus*

cristatus), amongst others. The closest otter record retrieved was ~800m from the site boundary. The closest great crested newt record retrieved was ~500m from the site boundary.

3.2 Extended Phase 1 Survey

3.2.1 Phase 1 Survey

The site comprises part of a cattle-grazed field characterised by improved grassland (B.4). The field extends >50m from the site boundaries to the northwest, northeast and southeast, and an area of hardstanding (J.4), currently used to store agricultural machinery, lies immediately to the southwest, beyond which is situated the Halghton Villa farmyard (J.3.6; J.4).

Further detail of each of the above habitats and features is provided in Table 3.1, below. The extent and relative position of each of the above habitats and features is shown in Figure 3.2, below. Photographs of the above habitats and features are provided in Appendix 1.

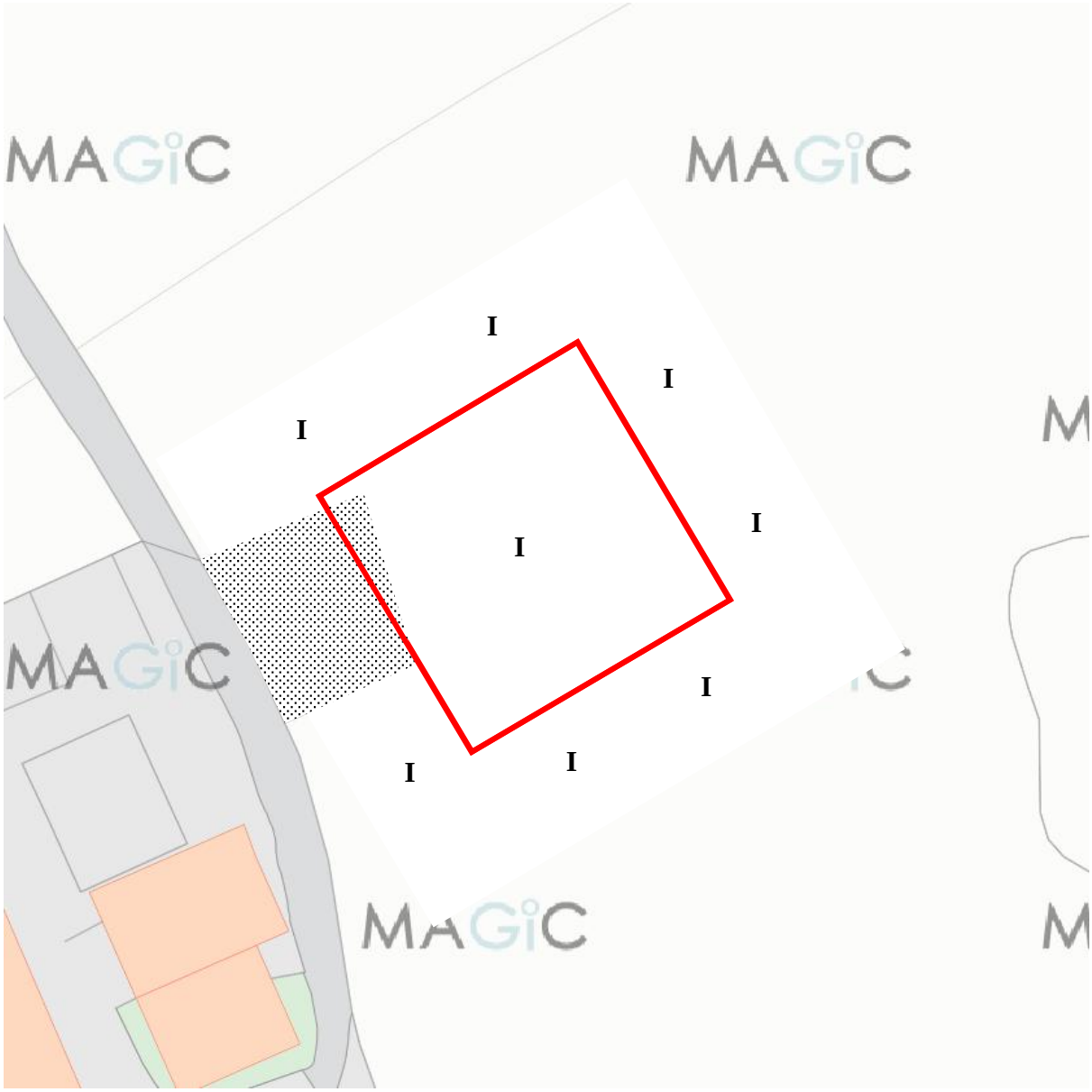


Figure 3.2: A 1:1,000 Phase 1 map of the site. The development area is shown in red.

Table 3.1: Summary of the habitats present within or immediate to the site.

Key	Habitat description and extent
I	**Improved grassland (B.4):** The improved grassland which characterises the field which the site forms part of. Cattle grazed. Dominated by perennial rye (*Lolium perenne*). Herbaceous species were few and apparently limited to broad-leaved dock (*Rumex obtusifolius*), creeping thistle (*Cirsium arvense*), creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum officinale agg.*), and white clover (*Trifolium repens*). Some nettle (*Urtica dioica*) and rosebay willowherb (*Chamaenerion angustifolium*) are present around the edge of the area of hardstanding.
	Bare Ground (J.4): The area of hardstanding immediately to the southwest of the site, via which access to the proposed lagoon will be provided. Comprising compacted earth made bare by its use.

3.2.2 Species Surveys

A methodical search was undertaken for the following species, or field signs or other evidence thereof. In addition, the site and its immediate surrounds were assessed for their potential to support the following species, or to provide other ecological services to the following species:

- ***Wild Birds:*** The grazed pasture which characterises the site will provide only a very limited source of forage for wild birds and is not suitable nesting habitat for any wild bird species.

- ***Bats:*** The grazed pasture which characterises the site comprises will provide only a very limited source of forage for bats and there are no structures or trees within or immediate to the site which could support roosting bats.

- ***Badger:*** No evidence of badgers was found during the survey of the site or its immediate surrounds. However, the habitats surrounding the site are considered well suited to the needs of the species. As such, the absence of the species from the surrounding area should not be assumed in the absence of further survey work.

- ***Arboreal Mammals (Hazel Dormouse, Red Squirrel and Pine Marten):*** The grazed pasture which characterises the site comprises part is not suitable habitat for any arboreal mammal species. As such, the absence of such species from the site and its immediate surrounds can be assumed.

- ***Riparian Mammals (Otter and Water Vole):*** Local records of otter were retrieved during the desk study (~800m from the site boundary). However, no evidence of any riparian mammals was found during the survey of the site or its immediate surrounds. Further, the nearest watercourse is >200m from the site boundaries. As such, the absence of such species from the site and its immediate surrounds can be assumed.

- ***Common Herpetofauna (Reptiles and Amphibians):*** The grazed pasture which characterises the site is not suitable habitat for any common herpetofauna. However, several local records of great crested newt were retrieved during the desk study (~500m from the site boundary) and there are at least four bodies of standing water (ponds) within 250m of the site. Of these ponds, three were assessed as having 'below average' suitability for great crested newt and one was assessed as having 'good' suitability for great crested newt.

  A detailed description and photographs of each of the ponds and the results of the Habitat Suitability Index assessments undertaken of each can be found in Appendix 2.

- **Other Priority Wildlife:** No evidence of any other priority wildlife was found during the survey of the site and its immediate surrounds. However, the habitats surrounding the site are considered well suited to the needs of some such species, particularly hedgehog (*Erinaceus europaeus*) and brown hare (*Lepus europaeus*). As such, the absence of the species from the surrounding area should not be assumed in the absence of further survey work.

- ***Invasive Non-native Species (INNS):*** No invasive non-native species were identified during the survey of the site or its immediate surrounds.

4 Evaluation and Recommendations

4.1 Habitats

4.1.1 Habitats to be lost

The proposed development will result in the loss of ~0.4ha of the improved grassland which characterises the site. This is unavoidable to facilitate the siting of the proposed lagoon and the creation of access thereto.

Improved grassland is not a protected habitat or habitat of principal importance and is generally considered to have only very low ecological value. As such, the loss of this habitat is likely to have an adverse ecological impact of only low local significance.

4.1.2 Habitats to be created

As compensation for the loss of the above habitats, and to ensure that the proposed development results in an overall net benefit for biodiversity, it has been agreed that ~180m of new native species-rich hedge is to be planted to bound the northwest, northeast and southeast boundaries of the new lagoon. Once established, this will provide a new source of direct and indirect forage for a variety of invertebrate, wild bird and small mammal species, as well as nesting opportunities for wild birds, the ecological value of which is expected to far exceed that of the area of improved grassland to be lost.

The hedge will be planted in a double-staggered row of between 5 and 7 trees per linear metre, using a staggered second row set 40cm apart from the first. To avoid faster growing species from overcrowding others, each row will be planted in 'clusters' of between 3 and 5 meters per species. The back row (the row closes to the proposed lagoon) will comprise a roughly even mix of hawthorn (*Crataegus monogyna*) and blackthorn (*Prunus spinosa*) while the front row (the row closest to the furthest from the proposed lagoon) will comprise of a roughly even mix of wych elm (*Ulmus glabra*), spindle (*Euonymus europaeus*), elder (*Sambucus nigra*), hazel (*Corylus avellana*), holly (*Ilex aquifolium*), and field maple (*Acer campestre*). In addition, dog rose (*Rosa canina*), guelder rose (*Viburnum opulus*), honeysuckle (*Lonicera periclymenum*), ivy (*Hedera helix*) and bramble (*Rubus fructicosus*) will be planted at the base of the hedge, at intervals of at least one plant every 3 metres, to encourage a thick understorey layer to develop and to improve the forage available throughout all months of the year.

The hedgerow plants will be planted within the first planting season post-completion of the development works (December to March, inclusive) and will be provided with appropriate care (i.e., watering, pruning, use of tree guards, etc.) in accordance with the advice provided by the supplier. Whips or feathered trees may be used; however, any specimens which fail will be replaced at the next appropriate season. Once established, the hedge will be managed with minimal interference, so that they are allowed to develop to be of most use for wildlife. Cuts will be taken on rotation, with no section cut more than once every two years, in February, once the berry crop has been exhausted.

4.2 Protected Species

4.2.1 Wild Birds

As a further biodiversity enhancement provision, it has been agreed that a Vivara Pro House Sparrow WoodStone Nest Box (Double Chamber) will be installed upon one of the existing agricultural buildings on site.

The box will be installed in a north or east facing position, at least 2m from ground level, away from any immediate clutter or direct artificial light spill, and out-of-reach of domestic cats or other terrestrial predators.

4.2.2 Bats

As a further biodiversity enhancement provision, it has been agreed that a Vivara Pro Beaumaris WoodStone Bat Box (Midi) will be installed upon one of the existing agricultural buildings on site.

The box will be installed in a south facing position, at least 4m from ground level, away from any immediate clutter or direct artificial light spill, and out-of-reach of domestic cats or other terrestrial predators.

4.2.1 Common Herpetofauna

The Natural England Great Crested Newt Licence rapid assessment tool has been used to assess the risk of committing an offence in relation to great crested newt. The assessment determined that, even in the 'worst case' scenario (i.e., if great crested newts are breeding in all of the ponds identified and no reasonable avoidance measures are adopted), an offence is highly unlikely to be committed via the destruction of the habitat upon the 0.8ha site.

Given the results of the rapid risk assessment, no further surveys of the ponds are recommended. However, out of an abundance of caution, it has been agreed that the works will be undertaken in strict accordance with a suitable precautionary method of working.

The results of the Rapid Risk Assessment and a suitable Precautionary Method of Working Statement be found in Appendix 2.

4.2.2 Badgers, Hedgehogs, and Other Wildlife

To ensure that any badgers, hedgehogs, or other wildlife which strays upon the site do not become trapped in any trenches, culverts or workings, any created in the course of the works will be fitted with sloping escape ramps, which may be achieved by edge profiling of trenches/excavations or by placing rough-sawn planks into them at the end of each working day. Chemicals will be kept secure, and the site will be made safe at the end of each working day. Should any badgers or other protected species be encountered during the works, works will immediately cease, and a suitable qualified ecologist will be contacted for advice.

To deter such species from establishing upon or travelling across the site, the grassland will be maintained at the existing short sward until the development works begin.

N.B: The site is considered wholly unsuited to the needs of any arboreal mammals or riparian mammals, and no invasive non-native species were identified anywhere upon or immediate to the site.

Appendix 1: Photographs



Figure A1.1: The improved grassland upon which the proposed lagoon is to be sited.



Figure A1.2: The area of hardstanding immediate to the site area.



Figure A1.3: The existing access trackway (as viewed from the south).



Figure A1.4: The Halghton Villa farmyard adjacent.

Appendix 2: Rapid Risk Assessment (Great Crested Newts)

SITE CONTEXT

The site comprises an area of ~0.4ha, centred around approximate site centroid SJ44494077.

There are no ponds or other bodies of standing water within the site boundaries; however, there are four ponds within 250m of the site boundaries, the relative positions of which are shown on Figure A2.1, below, and there are numerous further ponds within 500m of the site boundaries.

Local records of several great crested newt (~500m from the site boundary) were retrieved during the informal data search undertaken as part of the desk study. Additionally, it is understood that Pond 2 was confirmed to support a breeding population of great crested newt within the last five years.

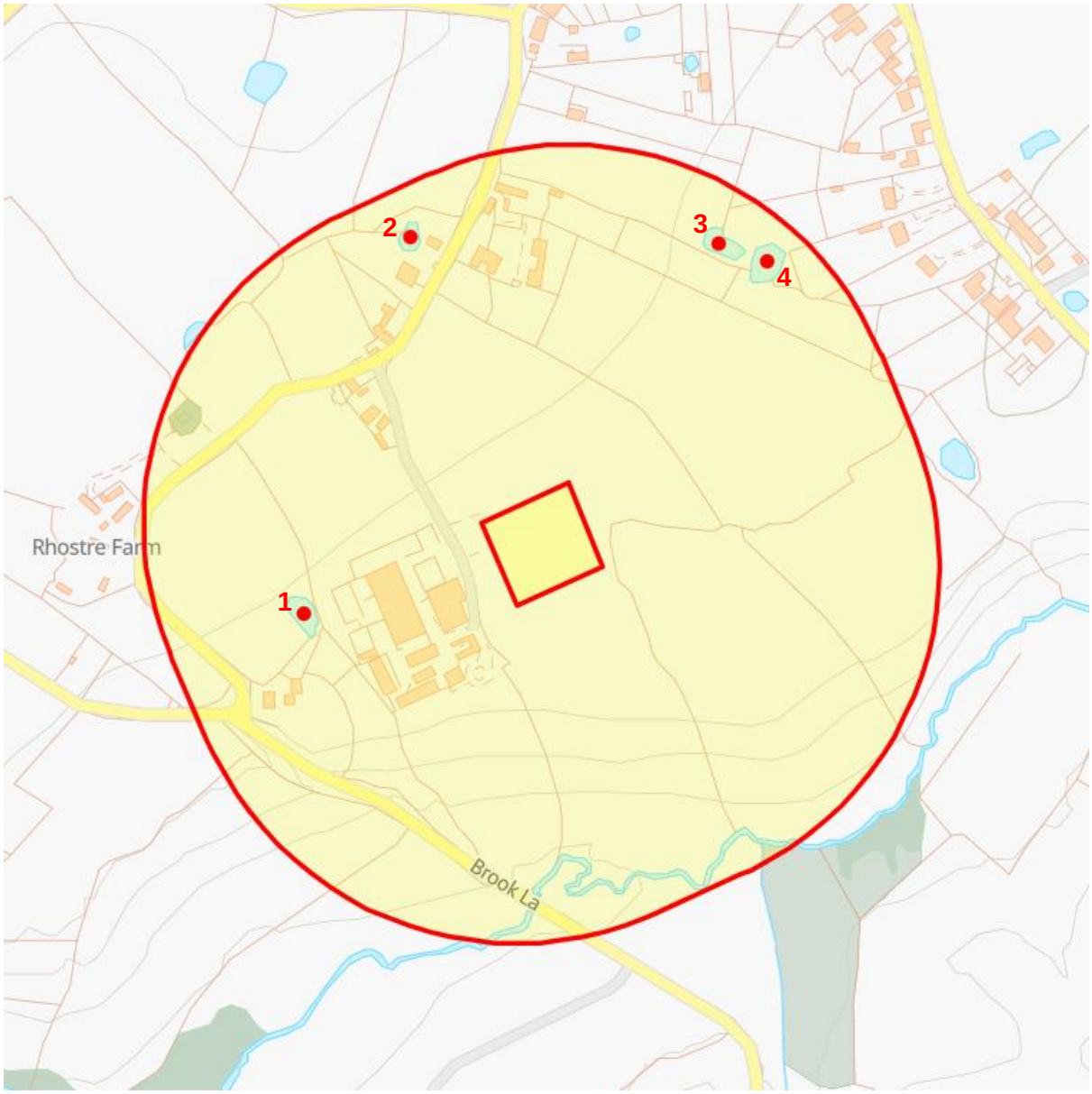


Figure A2.1: A 1:5,000 map view of the site and its surrounds, showing the relative position to each body of standing water within 250m of the site.

HABITAT SUITABILITY INDEX ASSESSMENTS

To determine whether any of the ponds within the site's 250m 'zone of influence' are likely to support great crested newt, each of the ponds was individually assessed using the Habitat Suitability Index tool detailed in *ARG UK Advice Note 5* (ARGUK, 2010).

Pond 1, which is set upon the far-side of the Halghton Villa farmyard, ~140m west of the site, features poor water quality and is extensively used by local waterfowl (see Figure A1.2). It was assessed as having 'below average' (almost 'poor') suitability for for great crested newt (see Table A2.1).

Table A2.1: Habitat Suitability Index (Pond 1).

Category	HSI Value	HSI Score
Geographic Location	Optimal	1.00
Pond Area	500m^2	1.00
Pond Permanence	Never	0.90
Water Quality	Poor	0.33
Shade	50%	1.00
Waterfowl Effect	Major	0.01
Fish Presence	None	1.00
Pond Density	>10	1.00
Terrestrial Habitat	Good	1.00
Macrophyte Cover	5%	0.35
Result	**Below Average**	**0.50**

Pond 2, which is set within the garden area of a neighbouring landowner, ~200m north-northwest of the site, is relatively small and is somewhat lacking in vegetation cover (macrophyte cover and bankside vegetation); however, it appears otherwise well-suited to the needs of the species (see Figure A2.3). It was assessed as having 'good' suitability for great crested newt (see Table A2.2). It is understood that this pond was confirmed to support a breeding population of great crested newt within the last five years.

Table A2.2: Habitat Suitability Index (Pond 2).

Category	HSI Value	HSI Score
Geographic Location	Optimal	1.00
Pond Area	225m^2	0.40
Pond Permanence	Never	0.90
Water Quality	Good	1.00
Shade	30%	1.00
Waterfowl Effect	Minor	0.67
Fish Presence	Absent	1.00
Pond Density	>10	1.00
Terrestrial Habitat	Poor	0.33
Macrophyte Cover	15%	0.45
Result	**Good**	**0.72**

Ponds 3 and 4, which are set together within the expansive pasture to the northeast of the site, ~200m northeast of the site (see Figures A2.4 and A2.5), would both be well-suited to the needs of the species were it not for the extensive use of both by local waterfowl. They were both assessed as having 'below average' suitability for for great crested newt (see Tables A2.3 and A2.4).

Table A2.3: Habitat Suitability Index (Pond 3).

Category	HSI Value	HSI Score
Geographic Location	Optimal	1.00
Pond Area	400m^2	0.80
Pond Permanence	Never	0.90
Water Quality	Moderate	0.67
Shade	60%	1.00
Waterfowl Effect	Major	0.01
Fish Presence	Possible	0.67
Pond Density	>10	1.00
Terrestrial Habitat	Good	1.00
Macrophyte Cover	10%	0.40
Result	**Below Average**	**0.54**

Table A2.4: Habitat Suitability Index (Pond 4).

Category	HSI Value	HSI Score
Geographic Location	Optimal	1.00
Pond Area	550m^2	1.00
Pond Permanence	Never	0.90
Water Quality	Moderate	0.67
Shade	50%	1.00
Waterfowl Effect	Major	0.01
Fish Presence	Possible	0.67
Pond Density	>10	1.00
Terrestrial Habitat	Good	1.00
Macrophyte Cover	20%	0.50
Result	**Below Average**	**0.70**

RAPID RISK ASSESSMENT

To assess the risk of committing an offence in relation to great crested newt, the Natural England Great Crested Newt Licence rapid assessment tool has been used (see Table A2.5). This assessment assumes that the ponds contain breeding populations of great crested newt and that no mitigation measures are put in place for the works.

Table A2.5: Natural England Rapid Risk Assessment Tool.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
	Maximum:	0.1
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Guidance on risk assessment result categories

"Green: offence highly unlikely" indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see **Non-licensed avoidance measures tool**) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest.

Given the results of the rapid risk assessment, no further surveys of the ponds are recommended. However, out of an abundance of caution, it has been agreed that the works will be undertaken in strict accordance with the below precautionary method of working.

PRECAUTIONARY METHOD OF WORKING STATEMENT

1. The grazed pasture which characterises the site is not suitable habitat for any common herpetofauna. To ensure that this does not change, the grassland will be maintained at the existing short sward until the development works begin.

2. A suitably qualified ecologist will be appointed as the site ecologist prior to the commencement of works. They will provide all contractors involved in the works with an ecological induction (a 'toolbox talk') prior to the commencement of works, detailing the legal status of common herpetofauna – including great crested newt – and the procedure to be followed if they are encountered. The site ecologist will remain 'on-call' throughout the project.

3. To ensure that any common herpetofauna (or other wildlife) which strays onto the site during the works does not become trapped in in any trenches, culverts or workings, any created in the course of the works will be fitted with sloping escape ramps, which may be achieved by edge profiling of trenches/excavations or by placing rough-sawn planks into them at the end of each working day. Excavated soil will be immediately removed from the site area and no piles of excavated soil will be allowed to remain on-site overnight.

4. If any frogs or toads (or reptiles) are found during the works, contractors will endeavour to capture them in a gentle fashion and move them to a safe location outside the working area. If any newts are found, the contractors will aim to take a clear photograph and will contact the site ecologist for advice. If it can be determined that the newt is a smooth or palmate newt (Lissotriton vulgaris or Lissotriton helveticus), then contractors will be advised to capture it in a gentle fashion using protective gloves and move it to a safe location outside the working area. In the event that a great crested newt (Triturus cristatus) has been found, all works will immediately cease, and Natural Resources Wales will be contacted for advice.

FIGURES



Figure A2.2: Pond 1.



Figure A2.3: Pond 2.



Figure A2.4: Pond 3.



Figure A2.5: Pond 4.

Appendix 3: Green Infrastructure Statement

The habitats within and immediate to the site are limited to the cattle grazed improved grassland which characterises the field which the site forms part of and an area of compacted earth hardstanding.

The proposed development will result in the loss of ~0.4ha of the improved grassland. This is unavoidable to facilitate the siting of the proposed lagoon and the creation of access thereto. However, improved grassland is not a protected habitat or habitat of principal importance and is generally considered to have only very low ecological value. As such, the loss of this habitat is likely to have an adverse ecological impact of only low local significance.

Further, as compensation for the loss of this habitat, and to ensure that the proposed development results in an overall net benefit for biodiversity, it has been agreed that ~180m of new native species-rich hedge is to be planted to bound the northwest, northeast and southeast boundaries of the new lagoon. Once established, this will provide a new source of direct and indirect forage for a variety of invertebrate, wild bird and small mammal species, as well as nesting opportunities for wild birds, the ecological value of which is expected to far exceed that of the habitats to be lost.

In addition, as further biodiversity enhancement provisions, it has been agreed that both a Vivara Pro House Sparrow WoodStone Nest Box (Double Chamber) and a Vivara Pro Beaumaris WoodStone Bat Box (Midi) will be installed upon one of the existing agricultural buildings on site.

As such, subject to the implementation of the above provisions, the proposed development is considered likely to result in a clear biodiversity net benefit/a net gain in local green infrastructure.

Reasonable avoidance measures are to be adopted to mitigate any risks to common herpetofauna, badgers, hedgehogs, and other wildlife.

The 'stepwise approach' should be adopted throughout the design stage of all new developments in Wales. This means that the loss of existing green infrastructure should be avoided whenever possible, and when it is not possible to avoid the loss of or damage to the existing green infrastructure entirely, the extent of the loss or damage should be minimised to the greatest extent possible. When a proposed development poses a risk of harm to green infrastructure, protected habitats or habitats of principal importance, or protected species or species of principle importance, suitable mitigation should be incorporated into the proposed scheme of works to safeguard that green infrastructure/those habitats and species to the greatest extent possible. Finally, if the loss of green infrastructure cannot be avoided, minimised or mitigated for, suitable on-site compensation should be incorporated into the design of the development.