Whitcher Wildlife Ltd.
Ecological Consultants.

LAND AT 61 SHAW LANE, CARLTON.

OS REF: SE 37089 09994.

ECOLOGICAL IMPACT ASSESSMENT.

Ref No: **240525/EcIA.**

Date: **10th December 2024.**

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1. INTRODUCTION.

1.1. Planning permission is being sought for a number of residential properties within the land to the east of 61 Shaw Lane, on the outskirts of the village of Carlton, Barnsley.

1.2. Whitcher Wildlife Ltd were therefore commissioned to carry out a Preliminary Ecological Appraisal of the site to establish whether there are any other issues that may affect the proposed works.

1.3. That survey was carried out on 13th May 2024 and a report was produced which outlined the findings of the survey and made appropriate recommendations.

1.4. The Preliminary Ecological Appraisal has now been converted into an Ecological Impact Assessment, which makes a statement of the impact of the development on the ecological features of the site.

1.5. Appendices I and III of this report provide additional information on specific species and are designed to assist the reader in understanding the contents of this report.

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2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site, the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the UK Habitat Classification methodology to identify the primary habitat types throughout the survey area. All primary habitats are accompanied by secondary codes which are used to add further specific details where necessary. Each primary habitat will be shown individually in the appended annotated map but at the time of writing this report, style files for the new secondary codes have not been created and are therefore not shown.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society: -

* Badger setts.
* Badger latrines or dung pits.
* Badger snuffle holes and evidence of foraging.
* Badger paths.
* Badger prints in areas of soft mud.
* Badger hairs caught on fencing.

2.4. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 100m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Dean M, Strachen R, Gow D and Andres R (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series).* Eds Fiona Mathews and Paul Chanin. The mammal Society, London: -

* Water vole burrows.
* Water vole faeces and latrines.
* Water vole feeding stations.
* Water vole runs.
* Water vole prints in areas of soft mud.
* Water vole lawns.
* Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter* and *Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines: -*

* Otter prints in soft mud.
* Otter spraints.
* Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for trees and structures and where found these were checked for potential bat roosting sites in line with Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)* by looking for the following signs: -

* Holes, cracks or crevices.
* Bat Droppings.

2.8. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.9. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.10. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.11. Where appropriate, the habitat within and surrounding the survey area was searched for species such as hazel, oak, honeysuckle, bramble and other species which may provide potential habitat for hazel dormice (*Muscardinus avellanarius*). Field signs such as feeding remains and nests were also searched for where possible, in line

with P Bright, P Morris and T Mitchell-Jones *The Dormouse Conservation Handbook 2nd Edition*.

2.12. Where appropriate, the area within and surrounding the survey area was assessed for its potential to house habitat for red squirrels. Field signs of red squirrels were searched for at least every 50m, looking for any dreys, feeding signs or sightings of red squirrels.

2.13. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.14. This document is prepared in line with The National Planning Policy Framework (NPPF). This sets out the government policy on biodiversity and nature conservation and places a duty on Planning Authorities to give material consideration to the effect of a development on legally protected species when considering planning applications. The NPPF and the Planning Practice Guidance on "Natural Environment" also promote sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

2.15. This report is prepared in line with the Natural Environment and Rural Communities (NERC) Act that came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

2.16. The Preliminary Ecological Appraisal was undertaken by Mitchel Greenhalgh, Managing Director of Whitcher Wildlife and an Ecological Consultant with an array of experience in conducting surveys on a variety of flora and fauna in a professional capacity. Mitchel holds a level two Natural England survey licence in respect of both bats and great crested newts, a NatureScot licence in respect of bats and Natural England class licences for various invertebrates. He is also working towards gaining further survey licences. He has attended courses run by CIEEM and the FSC and also holds a BSc in environmental science attained from the University of Leeds. He is an Associate member of CIEEM and he is therefore committed to continuous professional development.

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3. BASELINE ECOLOGY.

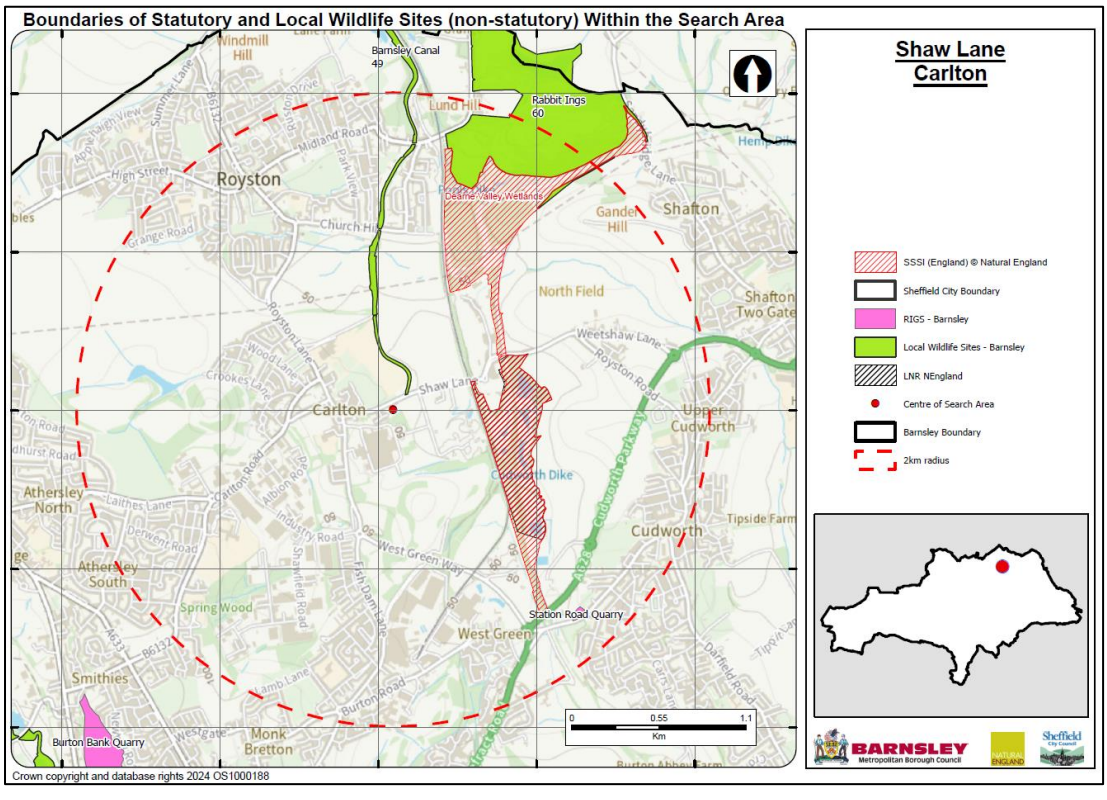
3.1. Data Search Results.

3.1.1. A data search request was submitted to the Barnsley Biological Records Centre (BBRC) for records of protected species and the location of designated sites within 2km of the survey area.

3.1.2. BBRC provided records of both statutory and non-statutory sites within a 2km radius. These are: -

- Barnsley Canal Local Wildlife Site (LWS) approximately 70m northeast.
- Unit 002 of the Dearne Valley Wetlands Site of Special Scientific Interest (SSSI), known as Carlton Marsh, approximately 480m east.
- Unit 001 of the Dearne Valley Wetlands Site of Special Scientific Interest (SSSI), known as Pool Ings and Sandybridge Dyke, approximately 710m northeast.
- Rabbit Ings LWS approximately 1420m northeast.

3.1.3. BBRC provided the below map, showing the proximity of these sites to the survey area.



3.1.4. The MAGIC Map website was also consulted to identify whether the survey area lies within a risk zone of any statutory designated site. The survey area was found to lie within both risk zone four and five of the Dearne Valley Wetlands SSSI, although as the development is less than fifty residential units, it does not meet the threshold of necessary to require consultation with Natural England.

3.1.5. BBRC returned no records of protected animal species close to the survey area, but did provide the following records.

- Five records of great crested newts, with the closest 1.5km north of the site.
- Ample records of reptiles, with the closest being from around Carlton Marsh, approximately 670m east of the survey area.
- Records of badger, with the closest being a 2022 record of field signs around Carlton Marsh, approximately 800m southeast of the survey area.
- Ample water vole records, mainly within Carlton Marsh, Sandybridge Dyke, and the ditch which extends between Carlton Road and Industry Road and then heading eastwards towards Fish Dam Lane. However, there are no records since 2013.
- Ample records of common bat species, including common pipistrelle, soprano pipistrelle, Daubenton's bat and noctule bat, with the closest being from Carlton Marsh approximately 700m east.
- Numerous records of schedule one bird species, mainly relating to Carlton Marsh, including: Avocet, barn owl, Bewick's swan, bittern, black-tailed godwit, Cetti's warbler, Dartford warbler, fieldfare, greylag goose, hobby, little-ringed plover, Mediterranean gull, merlin, osprey, quail, redwing and whooper swan.
- Records of other Biodiversity Action Plan (BAP) species, including brown hare, harvest mouse and hedgehog, along with various bird and invertebrate species. The only records of BAP species within 500m of the survey area are of grey partridge, yellowhammer, cuckoo and small heath butterfly, mostly within the former Carlton Main Colliery site.

3.1.6. The data search results can be provided upon request but should not be placed within the public domain.

3.2. The Survey Area.

3.2.1. The survey area comprises a piece of land to the east of 61 Shaw Lane, which varies in its level of management throughout the site.

3.2.2. The aerial map below shows the approximate location of the survey area, marked by the red shape.

3.2.3. The further surroundings comprise a mosaic of arable land, parkland, residential estates, commercial factories and former worked sites such as the old colliery.

3.3. Description of Habitats.

3.3.1. Appendix V of this report contains an annotated map marked up with the varying habitats within the site and the condition assessment of all habitats are shown within the accompanying condition assessment sheet. The habitats on the site are: -

- u1b – Developed Land; Sealed Surface
- u1b5 – Buildings
- g4 – Modified Grassland
- g3c – Other Neutral Grassland
- h3 – Dense Scrub
- r1g – Other Standing Water
- h2a6 – Other Native Hedgerow
- h2b – Non-native and Ornamental Hedgerow

3.3.2. u1b – Developed Land; Sealed Surface.

Along the edge of the northwestern boundary is an area of hardstanding.

3.3.3. u1b5 – Buildings.

There is a series of interconnected garages and a greenhouse within the survey area.

3.3.4. u1b6 – Other Developed Land

To the northeast of the site is an area of bare ground which appears to be the foundations or footings of an old tin shed. The shed is shown on aerial imagery but is no longer present.

3.3.5. g4 – Modified Grassland.

3.3.5.1. MG1. - Secondary codes: 32 scattered trees, 108 mown, 827 garden.

3.3.5.1.1. The northern section of the survey area, east of the bungalow, comprises a closely mown grassland typical of a garden, which includes a number of planted trees which are generally immature or semi-mature. Grassland species include perennial rye grass (*Lolium perenne*), red fescue (*Festuca rubra* agg.), annual meadow grass (*Poa annua*), creeping buttercup (*Ranunculus repens*), white clover (*Trifolium repens*), common mouse ear (*Cerastium fontanum*), dandelion (*Taraxacum officinale* agg.), wall speedwell (*Veronica arvensis*), yarrow (*Achillea millefolium*), spiny sow thistle (*Sonchus asper*) and daisy (*Bellis perennis*).

3.3.5.1.2. Tree species comprise two apple (*Malus* sp.), three plum (*Prunus* sp.) and individual Scots pine (*Pinus sylvestris*), rowan (*Sorbus aucuparia*) and silver birch (*Betula pendula*). There are also four very small fruit tree saplings, too small to consider as trees.

3.3.5.2. MG3. - Secondary codes: 81 ruderal or ephemeral, 827 garden.

3.3.5.2.1. The northeast of the survey area has an area of modified grassland that has been left untended for a period of time. It still comprises many of the same species typical of an improved grassland but is slightly more species rich. Species include red fescue (*Festuca rubra* agg.), perennial rye grass (*Lolium perenne*), cocksfoot (*Dactylis glomerata*), meadow foxtail (*Alopecurus pratensis*), rough meadow grass (*Poa trivialis*), broadleaved plantain (*Plantago major*), broadleaved dock (*Rumex obtusifolius*), creeping buttercup (*Ranunculus repens*), field forget-me-not (*Myosotis arvensis*), spear thistle (*Cirsium vulgare*), willowherbs (*Epilobium* spp.), cleavers (*Galium aparine*), teasel (*Dipsacus fullonum*), common mouse ear (*Cerastium fontanum*), wall speedwell (*Veronica arvensis*), nettle (*Urtica dioica*), cut-leaved cranesbill (*Geranium dissectum*) and ragwort (*Jacobaea vulgaris*).

3.3.5.2.2. Some taller ruderal species are also present around the perimeter of this section of the grassland, including species such as cleavers and nettles as previously described, but also green alkanet (*Pentaglottis sempervirens*) and common mallow (*Malva sylvestris*).

3.3.6. g3c – Other Neutral Grassland.

Secondary codes: 32 scattered trees, 827 garden.

3.3.6.1. The south of the survey area comprises a large swathe of grassland which was previously managed but appears to have also been left for a period of time. It has since formed grassland mosaic with higher species diversity, although still indicative of high nutrient soils. Species within this larger section of grassland include meadow foxtail (*Alopecurus pratensis*), rough meadow grass (*Poa trivialis*), red fescue *(Festuca rubra* agg.), cocksfoot (*Dactylis glomerata*), barren brome (*Anisantha sterilis*), annual meadow grass (*Poa annua*), field horsetail (*Equisetum arvense*), creeping buttercup (*Ranunculus repens*), broadleaved dock (*Rumex obtusifolius*), field forget-me-not (*Myosotis arvensis*), ribwort plantain (*Plantago lanceolata*), nettle (*Urtica dioica*), dandelion (*Taraxacum officinale* agg.), nipplewort (*Lapsana communis*), common vetch (*Vicia sativa*), bramble (*Rubus fruticosus*), creeping thistle (*Cirsium arvense*), white clover (*Trifolium repens*), great mullein (*Verbascum thapsus*), black medick (*Medicago lupulina*), smooth sow-thistle (*Sonchus oleraceus*), willowherbs (*Epilobium* spp.), broadleaved plantain (*Plantago major*), comfrey (*Symphytum officinale*) and scentless mayweed (*Tripleurospermum inodorum*).

3.3.6.1.2. Two immature goat willow trees are present within this habitat at the very southwest of the site.

3.3.7. h3 – Dense Scrub.

Secondary codes: 847 introduced shrub.

Just south of the northern hedgerow, and alongside the drive, are areas of well managed ornamental shrubs.

3.3.8. r1g – Other Standing Water.

Secondary codes: 32 scattered trees, 41 pond (non-priority)

3.3.8.1. In the very south-east of the corner is a pond, shaded by semi-mature trees and partially fringed with vegetation, with some aquatic vegetation present within. Vegetation within and around the pond includes water plantain (*Alisma plantago-aquatica*), common reed (*Phragmites australis*), yellow iris (*Iris pseudacorus*), pendulous sedge (*Carex pendula*), brooklime (*Veronica beccabunga*), creeping cinquefoil (*Potentilla reptans*) and curled dock (*Rumex crispus*).

3.3.8.2. Surrounding the pond are two silver birch (*Betula pendula*), two grey willow (*Salix cinerea*), two beech (*Fagus sylvatica*) and individuals of larch (*Larix decidua*) and weeping willow (*Salix babylonica*).

3.3.9. h2a6 – Other Native Hedgerow.

Secondary codes: 516 active management.

Between the site and the road is a mature hedgerow comprises entirely of hawthorn (*Crataegus monogyna*), except for the very occasional elder (*Sambucus nigra*). The understory comprises bramble (*Rubus fruticosus* agg.), hedge bindweed (*Calystegia sepium*), nettle (*Urtica dioica*), cleavers (*Galium aparine*), cow parsley (*Anthriscus sylvestris*), soft brome (*Bromus hordeaceus*), ragwort (*Jacobaea vulgaris*), dandelion (*Taraxacum officinale* agg.), ribwort plantain (*Plantago lanceolata*), creeping thistle (*Cirsium arvense*), garlic mustard (*Alliaria petiolata*), fennel (*Foeniculum vulgare*), barren brome (*Anisantha sterilis*), groundsel (*Senecio jacobaea*), green alkanet (*Pentaglottis sempervirens*) and dog's mercury (*Mercuralis perennis*).

3.3.10. h2b – Non-native and Ornamental Hedgerow.

A leyland cypress (*Cupressus ×leylandii*) hedge is present within the centre of the site.

3.4. Description of Fauna.

3.4.1. No badger setts or other field signs were identified within the survey, although the site does offer suitable terrestrial habitat for the species.

3.4.2. There are no watercourses on the site to provide suitable habitat for otter, water vole, or white-clawed crayfish. The pond on site could provide some semi-suitable habitat for water vole but no field signs were identified.

3.4.3. Great crested newt

3.4.3.1. There is one pond located within the survey area, and a further pond within the old Carlton Colliery site, approximately 475m east of the survey area. These are shown on the map below.

3.4.3.2. The pond on site is described previously within the report. A Habitat Suitability Index (HSI) calculation was carried out on site and the findings of this are shown in the table below. The pond scores 0.71 which equates to good suitability for great crested newts.

SI No	SI Description	SI Value
1	Geographic location	1
2	Pond area	0.4
3	Pond permanence	0.5
4	Water quality	1
5	Shade	0.4
6	Waterfowl effect	0.67
7	Fish presence	1
8	Pond Density	0.9
9	Terrestrial habitat	0.67
10	Macrophyte cover	0.6
HSI Score		**0.71**

3.4.3.3. As the pond has good suitability for great crested newts, an eDNA survey was recommended and subsequently conducted. This returned a negative result as shown below.

Lab ID	Site Name	OS Reference	Degradation Check	Inhibition Check	Result	Positive Replicates
3735	Shaw Lane, Carlton	SE37131000	Pass	Pass	Negative	0/12

3.4.3.4. The remaining pond located approximately 475m from the survey area was not inspected during this survey but is considered to be a sufficient distance from the site, with poor connectivity. It was assessed during a previous PEA undertaken in conjunction with the proposed solar farm adjacent to the site and found to have below average suitability for great crested newts.

3.4.4. *Bats*

3.4.4.1. There are two 'buildings' within the survey area. The greenhouse is considered to have no suitability for roosting bats, and the other is the garage complex:

3.4.4.2. The garage complex was thoroughly inspected both internally and externally and assessed for its potential to host roosting bats against the Bat Conservation Trust Good Practice Guidelines.

3.4.4.3. The garages are generally in good condition with no suitable features for bats to roost within. They are of brick and wood construction with hipped or flat roofs lined with bitumen felt. All timber fascias sit flush and no field signs are present either

internally or externally. It is also still regularly in use as storage. Therefore, the garage is assessed to have negligible potential for roosting bats.




3.4.4.4. All trees within the survey area were inspected from ground level, and none were found to host potential roost features (PRFs). Therefore, all trees within the survey area were assessed as having negligible potential for roosting bats.

3.4.4.5. The survey area provides moderate to high suitable habitat for foraging and commuting bats, as despite the presence of the neighbouring roads and residential / commercial properties, there is good connectivity to the other areas of high suitability, including Carlton Marsh SSSI or the Barnsley Canal LWS.

3.4.5. The survey area provides limited opportunities for nesting birds within the main area of the site, but birds may nest within the trees or hedgerows on site during the nesting season, which extends from March to August each year. Waterfowl may also utilise the banks of the pond. The garage complex could be used by nesting birds, but is well sealed with no access inside.

3.4.6. Reptiles

3.4.6.1. The survey area does provide suitable habitat for common reptile species due to the rough grassland and refugia present on site along with the pond. Shown below are features which may be used by reptiles should they be present.

3.4.6.2. A full suite of reptile surveys have now been carried out with no reptiles being found, as shown in the table below.

Date	Temperature	Weather	Results
31/05/24	40 Mats laid out		
14/06/24	14 ºC	Slightly overcast with sunny spells.	Nil.
19/06/24	14 ºC	Sunny and mild.	Nil.
21/06/24	15 ºC	Overcast with occasional sunny spells and warm.	Nil.
24/06/2024	20 ºC	Sunny and very warm.	Nil.
01/07/2024	16 ºC	Sunny but partially cloudy and mild.	Nil.
05/07/2024	15 ºC	Sunny but partially cloudy and mild.	Nil.
08/07/2024	16 ºC	Sunny and mild.	Nil.

3.4.7. The survey area lies outside of the known natural home range of red squirrel and hazel dormouse and as such, they were not considered during the survey.

3.4.8. The survey area provides suitable habitat for hedgehogs and other small mammals due to the good opportunities for foraging, refugia and hibernation.

3.4.9. No invasive, non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981) were identified within the survey area.

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4. IMPACT ASSESSMENT, MITIGATION AND RESIDUAL EFFECTS.

4.1. Designated Sites.

4.1.1. Assessment.

The site lies within risk zones four and five of the Dearne Valley Wetlands SSSI, and close to Barnsley Canal LWS. The development may lead to a low level of increase recreational pressure on the sites but is considered to be small enough for this to have no adverse effect on the integrity of these sites. The development does not meet the threshold to require consultation with Natural England and is therefore considered to be very unlikely to negatively impact upon either statutory or non-statutory sites.

4.1.2. Mitigation.

No mitigation for the impact on designated sites is planned or necessary, as the closest designated site is located past Shaw Lane and it is understood no proposed works will proceed outside of the site boundary, north of the main road.

4.1.3. Residual Effects.

The only designated site close to the survey area is located across a frequently used main road and therefore it is likely that there will be **no residual negative impact** on designated sites.

4.2. Habitats.

4.2.1. Assessment.

4.2.1.1. One priority habitat is present on the site, which is the roadside native hedgerow. The pond does not meet any of the relevant criteria to be considered a priority habitat. The native hedgerow will be fragmented to facilitate access into the site.

4.2.1.2. The total baseline biodiversity units (BU) for the site are shown in the tables below. The score was calculated using the statutory metric, as was the most current version at the time of writing this report. The site lies outside of the Dearne Valley

Nature Improvement Area and therefore all habitats are inputted into the metric as being outside of any local strategy.

Habitat Type	Area (hectares)	Distinctiveness	Condition	Biodiversity units
Modified grassland	0.1419	Low	Poor	0.28
Modified grassland	0.11	Low	Good	0.66
Other neutral grassland	0.3399	Medium	Moderate	2.72
Ponds (non-priority habitat)	0.0191	Medium	Moderate	0.15
Introduced shrub	0.0323	Low	Condition Assessment N/A	0.06
Developed land; sealed surface	0.0647	V.Low	N/A - Other	0.00
*Urban tree	0.0326	Medium	Poor	0.13
*Urban tree	0.0081	Medium	Moderate	0.06
*Urban tree	0.0814	Medium	Good	0.98
Total	**0.71 ha**			**5.05 BU**

*Not included in area calculation.

Hedgerow Type	Length (km)	Distinctiveness	Condition	Biodiversity units
Native hedgerow	0.095	Low	Poor	0.19
Non-native and ornamental hedgerow	0.073	V.Low	Poor	0.073
Total	**0.168 km**			**0.263 BU**

4.2.2. Mitigation.

4.2.2.1. Much of the habitat on site will be lost to facilitate the development which results in a net loss of habitat. Ideally the site would achieve at least a 10% net gain in biodiversity units (BU) but given the design proposals, it is considered that there is no possible way that an on-site gain could be achieved.

4.2.2.2. However, some areas of neutral grassland will be created within the site outside of private ownership, along with areas of vegetated gardens within the development.

The gardens and hardstanding have been split 70/30 between developed land and vegetated garden habitats.

4.2.2.3. The table below shows the post works biodiversity score of the development.

Habitat Type	Area (hectares)	Distinctiveness	Condition	Biodiversity units
Urban - Developed land; sealed surface	0.4534	V.Low	N/A - Other	0
Urban - Vegetated garden	0.1943	Low	Condition Assessment N/A	0.37
Grassland - Other neutral grassland	0.0603	Medium	Moderate	0.4
Total	**0.71ha**			**0.78 BU**

Hedgerow Type	Length (km)	Distinctiveness	Condition	Biodiversity units
Native hedgerow (retained)	0.087	Low	Poor	0.17
Total	**0.087 km**			**0.17 BU**

4.2.2.4. The development results in a habitat net loss of 4.27 BU, equivalent to 84.59%.

4.2.2.5. The development also results in a hedgerow net loss of 0.09 BU, equivalent to 33.84%.

4.2.2.6. The development will also fail the trading rules.

4.2.3. Residual Effects.

4.2.3.1. The proposed development will lead to a net loss of 84.59% habitat units and 33.84% loss of hedgerow units.

4.2.3.2. The native hedgerow on site will also impacted by the development.

4.2.3.3. With the above proposals in place, there will be **a high negative impact** on habitats at site level.

4.3. Great Crested Newts.

4.3.1. Assessment.

An eDNA survey confirms that great crested newts are not present within the pond on site and the only other pond within 500m is 475m east of the survey area, poorly connected to the site.

4.3.2. Mitigation.

In the very unlikely event that any great crested newts are found, professional ecological advice will be sought on how to proceed.

4.3.3. Residual Effects.

With the negative eDNA results and precautionary mitigation in place above, the works are likely to have **no residual impact** on newts at a site level.

4.4. Bats.

4.4.1. Assessment.

4.4.1.1. No buildings or trees within the survey area were assessed as having potential for roosting bats.

4.4.1.2. The site does provide moderate to high suitable habitat for foraging and commuting bats due to its connectivity to the surrounding environment and other areas of high value.

4.4.2. Mitigation.

Sensible precautions such as sensitive lighting plans are set to be in place both during the works and for the proposed development.

4.4.3. Residual Effects.

Due to the loss of habitat, the works are likely to have a **moderate residual impact** on foraging and commuting bats at a site level.

4.5. Nesting Birds

4.5.1. Assessment.

The trees, pond and hedgerows within the survey area provide suitable habitat for nesting birds within the nesting season, which extends from March to August each year.

4.5.2. Mitigation

Any vegetation clearance which is necessary between March and August, during the nesting season, will be immediately preceded by a nesting bird survey undertaken by a suitably qualified ecologist. Any active nests found will be left undisturbed until the young have fledged.

4.5.3. Residual Effects.

Due to the loss of scrub habitat, there is likely to be a **low negative residual impact** on nesting birds at a site level.

4.6. Hedgehogs and Small Mammals.

4.6.1. Assessment.

Small mammals, including hedgehogs, are likely to be present within and around the survey area.

4.6.2. Mitigation.

4.6.2.1. Vegetation will first be cleared to a minimum of 150mm to ensure any small mammals have chance to escape the area unharmed.

4.6.2.2. Prior to any clearing to ground level, a full check will be carried out to make sure no hedgehogs are present beneath refugia or leaf litter.

4.6.2.3. All fencing used around the site will be fitted with 130mm hedgehog holes to allow for access throughout the site post works.

4.6.3. Residual Effects.

With the above mitigation in place, there will is likely to be **no residual impact** on hedgehogs or other small mammals.

4.7. Reptiles.

4.7.1. Assessment.

The site offers some suitable habitat for common reptile species and therefore, further reptile surveys were conducted. No reptiles were found during these surveys.

4.7.2. Mitigation.

4.7.2.1. Vegetation will first be cleared to a minimum of 150mm to ensure any reptiles have the chance to escape the area unharmed.

4.7.2.2. In the unlikely event that any reptiles are found, they will be left undisturbed and allowed to escape the works area of their own accord. Professional ecological advice will then be sought on how to proceed.

4.7.3. Residual Effects.

With the above mitigation in place, there is likely to be **no residual impact** on reptiles at a site level.

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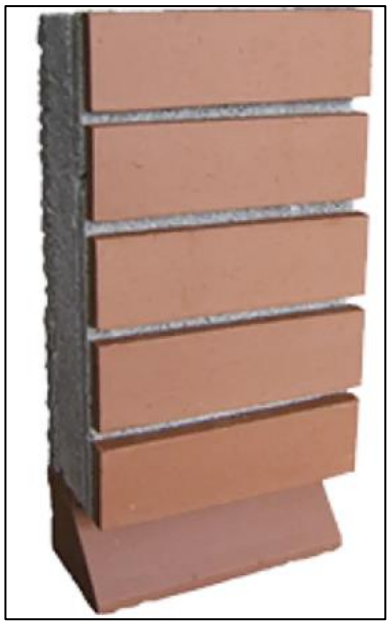
5. COMPENSATION AND ENHANCEMENT MEASURES.

5.1. All of the new residential dwellings will be fitted with bird bricks, which will be located high on the gable end. These will be the Ibstock integrated swift box or similar, tailored to match the external finish of the property.

5.2. All new residential dwellings will also be fitted with an integrated bat box, which will be located high on the gable end. These will be the Habibat Bat Box or similar, tailored to match the external finish of the property.



5.3. In addition to the above, all new residential dwellings will be fitted with an integrated bee brick, which will be placed in a warm sunny spot on a south-facing wall

at a minimum height of 1m, with no vegetation obstructing the holes. These will be the Green & Blue integrated bricks or similar.

5.4. A hedgehog house and refugia piles will be provided within a section of the created grassland bordering the southeastern perimeter of the site.

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Prepared by:	
Joseph Sutton BSc.	Date: 10th December 2024.

Checked by:	
Ruth Georgiou. BSc, MCIEEM.	Date: 19th December 2024.

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Appendix I. GREAT CRESTED NEWT INFORMATION.

Ecology

Great Crested Newts breed in ponds and other water bodies. They can begin to migrate to their breeding ponds as early as the first frost-free days in late January with the majority reaching their breeding ponds by mid-March. Timing will be influenced by several factors, primarily evening temperatures above 5^{o}C and rainfall.

The peak egg-laying period is from mid-March to mid-May. The newts will lay their eggs individually, mainly on the leaves of submerged plants. The larva hatch after three weeks and then take another 2-3 months to complete larval development. Adult newts generally leave their breeding ponds from late May onwards.

Once the larvae have completed metamorphosis (the transition from aquatic larvae, efts, to land-adapted juveniles), they emerge from the pond. This emergence begins in late August and generally continues until late October. It takes 2-4 years to reach sexual maturity, during which time the newts will be land based.

Adults and immature newts spend the winter in places that afford protection from frost and flooding. This will generally be underground amongst tree roots, in mammal burrows, or under suitable refuges above ground like deadwood or rubble piles. Hibernation may last from October to February.

Whilst on land, outside the hibernation period, great crested newts will forage at night, taking a wide range of invertebrate prey.

Great Crested Newts therefore spend the majority of their time on land and only visit the ponds for breeding purposes.

Great Crested Newts will travel large distances between ponds and terrestrial refuges. It is recommended that anywhere within 500m of a pond should be treated as potential Great Crested Newt habitat.

Surveys

Walkover surveys will identify the suitability of any ponds within the area for Great Crested Newts by using a HSI assessment. The terrestrial habitat and their links will also be assessed.

Aquatic surveys of newts can be carried out through the trapping of ponds in suitable weather conditions during the breeding season, although these surveys do not provide accurate population estimates.

Terrestrial surveys and exclusions can be conducted between March and September when newts are moving out of breeding ponds.

An experienced surveyor must carry out the surveys and must be in possession of an appropriate Natural England Great Crested Newt survey licence.

It is essential that Great Crested Newt surveys are planned well in advance of any development and ideally before Planning Consent is sought. Surveys can only be carried out at the appropriate time of year and repeat surveys are essential.

Legislation

Great Crested Newts are protected under Appendix II of the BERN Convention (1982), Schedule 5 of the Wildlife and Countryside Act (1981), Annex II and IV of the Habitats Directive, Annex II of the Conservation and Wildlife Regulations (2010) and are listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance.

This makes it an offence to kill, injure or take any Great Crested Newt, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

If Great Crested Newts are to be affected by any development, a thorough assessment of the population is essential followed by the design of a comprehensive mitigation package. Only when this has been done can a licence application be submitted to Natural England for approval. It takes 30 working days for a licence application to be determined and the period that mitigation measures take can be measured in months. It is therefore essential to plan well in advance of development commencing.

Appendix II. NESTING BIRD INFORMATION.

Ecology

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September. It is also worth remembering that some birds nest in trees and scrub, but others are ground nesting or prefer man- made structures or buildings.

Surveys

Nesting bird surveys search for potential nest sites in vegetation, buildings etc. Potential nesting sites are observed over a suitable period of time for bird movements or calling male birds that would indicate the presence of a nest. The presence of a nest can be identified from the field signs without the necessity to see the nest itself, thereby avoiding any disturbance of the nests. The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Legislation

Nesting birds are protected under The Wildlife and Countryside Act 1981.

Part 1. -(1) Of the Act states that: - If any person intentionally: - kills, injures or takes any wild bird; takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Part 1. -(5) of the Act states that: - If any person intentionally: - disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or disturbs young of such a bird, he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

Appendix III. REPTILE INFORMATION.

Ecology

There are five main species of reptile that reside in the UK; Common or Viviparous Lizard (*Lacerta vivipara*); Sand Lizard (*Lacerta agilis*); Slow Worm *(Anguis fragilis*); Grass Snake (*Natrix natrix*) and Adder (*Vipera berus*). The Adder is the only native species that is venomous although this is rarely harmful to humans.

Reptiles occupy a wide range of habitats including woodland, marshes, heathland, moors, sand dunes, hedgerows and bogs. Sand Lizards are confined to moorland and coastal sand dunes where they lay their eggs in the warm sand. The range of the Sand Lizard in the UK is therefore very limited. Slow Worms can be found in a wide variety of habitats throughout Britain and is the most likely reptile to be found in urban and suburban environments.

Maintaining the right body temperature is vital to reptiles' survival. In the morning, they find a warm basking site to heat up their bodies, then later they may move back into the shade because they do not sweat and have to be careful not to overheat. During hot summers, Adders will try to move to damper, cooler sites.

Over winter reptiles will hibernate in burrows or under longs where they are protected from the cold and predators, emerging from February onwards as the weather warms up.

Reptiles generally begin to mate April to May with young born in late July to September. The Common Lizard gives birth to live young, hence the term viviparous, meaning live bearing.

Surveys

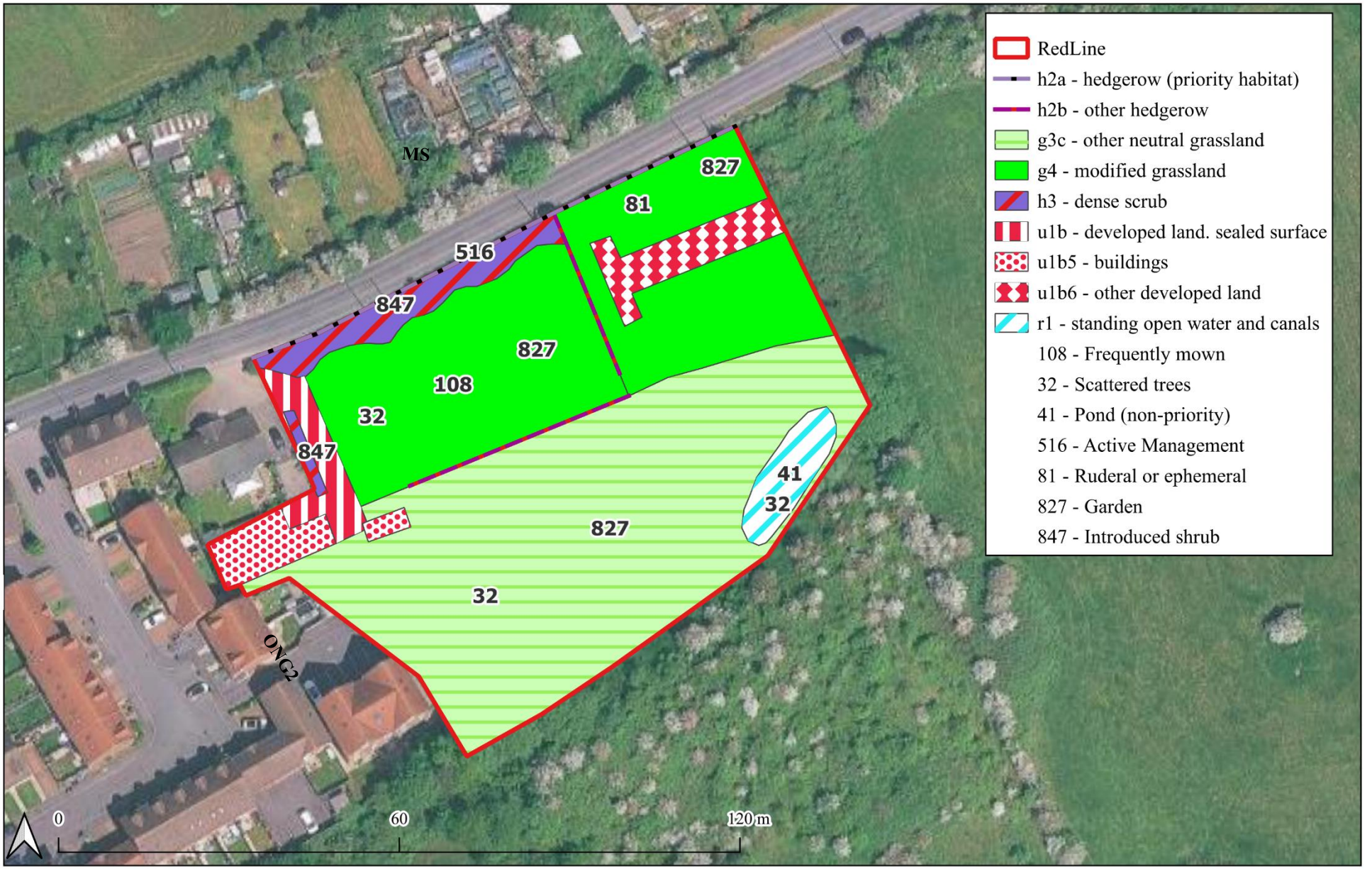
Reptile surveys involve the searching of refuge such as logs and stones for any animal sheltering below. Artificial refuge may be laid out on site for the purpose of reptile surveys.

Legislation

Reptiles are protected under Appendix II (sand lizards) and Appendix III (common lizard, slow worms, smooth snake, grass snake and adders) of the BERN Convention (1982), partially protected under Schedule 5 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive and are all listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance.

This makes it an offence to disturb any reptile while it is occupying a structure or place it uses for shelter or protection or to obstruct access to such a place.

APPENDIX IV. ANNOTATED MAP OF THE SURVEY AREA - BASELINE.



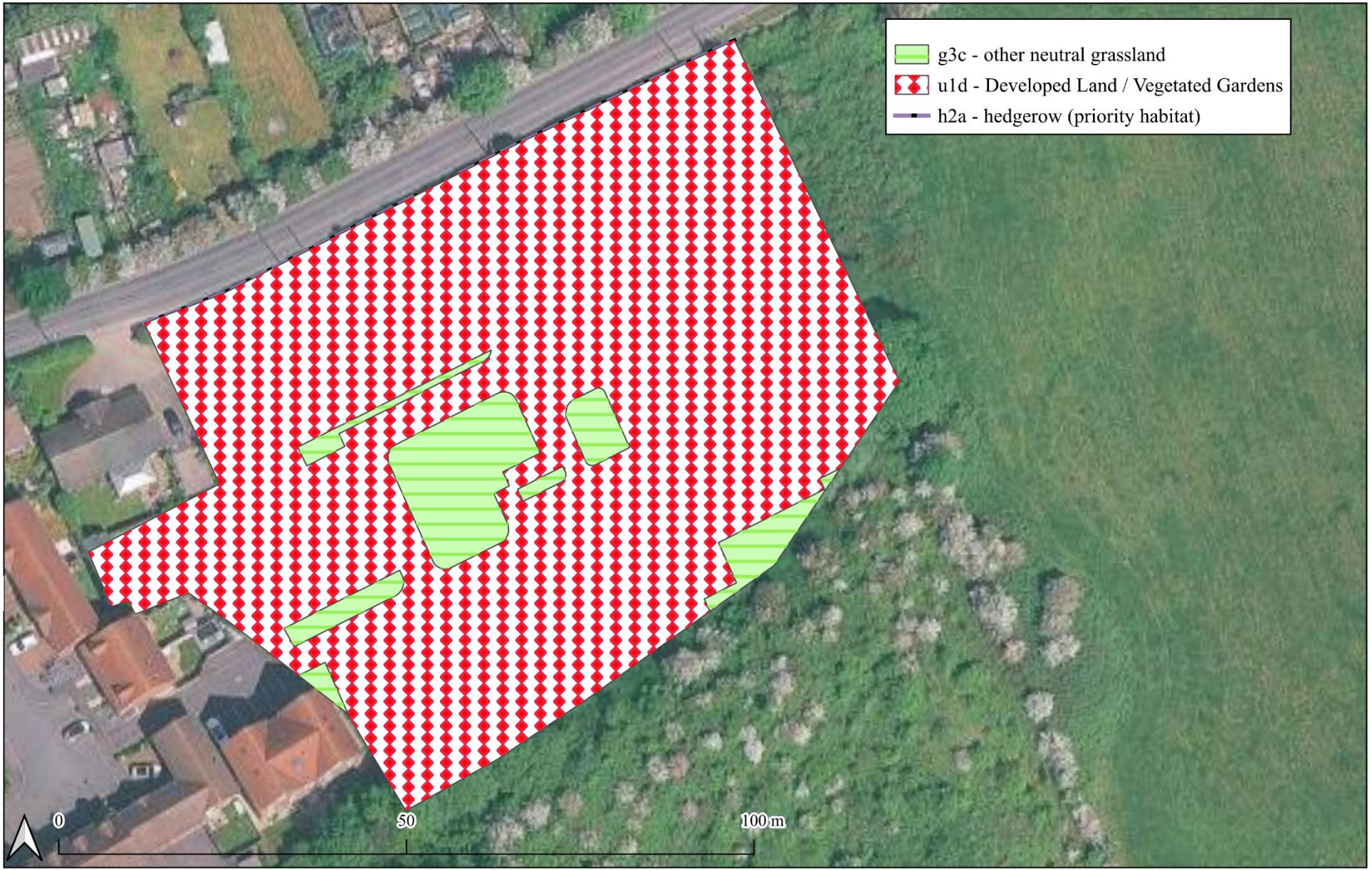
Site: Shaw Lane, Carlton

Reference: 240525

Date: 29.11.2024

Produced by: Mitch Greenhalgh and Joseph Sutton

APPENDIX V. ANNOTATED MAP OF THE SURVEY AREA – POST WORK.



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Reference: 240525/POST

Date: 19.12.2024

Produced by: Mitch Greenhalgh

APPENDIX VI. PROPOSED DEVELOPMENT.