envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Preliminary Ecological Appraisal

Hoole Cottage, Wigan Lane, Chorley

Green at Heart BEN GOLD

RICS
The mark of
property professionalism worldwide

Tel: 015395 61894
Email: info@envtech.co.uk
Web: www.envtech.co.uk
Envirotech NW Ltd
The Stables, Back Lane, Hale, Milnthorpe, Cumbria. LA7 7BL
Directors: A. Gardner BSc (Hons), MSc, MRICS, Dip NDEA
H. Gardner BSc (Hons), MSc, CEnv, MRICS
Registered in England and Wales. Company Registration Number 5028111

ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech have been awarded the Gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

Author	Sian Comlay	Date	14/07/2021
Checked by	Andrew Gardner	Date	14/07/2021
Report Version	1		
Field data entered	☒		
Report Reference	7299		

Contents

1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned in June 2021 to carry out a Preliminary Ecological Appraisal of land at Hoole Cottage off Wigan Lane in Chorley. It is proposed that a single new residential dwelling is constructed on the site.

1.1.2 A data search and desk study of the site and an area within 2km of the site were undertaken to establish the presence of protected species and notable habitats.

1.1.3 The site was then visited by an ecologist from Envirotech NW Ltd on the 18th June 2021. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of notable species at the site or in proximity such that they may be affected by the proposed development.

1.1.4 The plant species assemblages recorded at the site are all common in the local area and are considered to be of low ecological value. Domestic gardens and sympathetically landscaped open space is considered to offer habitat of equal or greater ecological value.

1.1.5 None of the hedgerows around the site perimeter were considered important under the Hedgerow Regulations (1997).

1.1.6 Birds are likely to vegetation and buildings on site for nesting between March and September. Any vegetation/building clearance should therefore be undertaken outside of this period.

1.1.7 No other notable or protected species were recorded on the site.

2. INTRODUCTION

2.1 Background

2.1.1 In June 2021 Envirotech NW Ltd were commissioned to carry out a Preliminary Ecological Appraisal of land at Hoole Cottage off Wigan Lane in Chorley, central grid reference SD589 145 (Figure 1). A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.

2.1.2 The survey was requested in connection with the proposed demolition of the existing garage and construction of a single new residential dwelling.

2.2 Objectives

2.2.1 The main objectives of the study were:

- The completion of a Phase 1 Habitat Survey including the preparation of a vegetation and habitat map of the site and the immediate surrounding area.
- The survey and assessment of all habitats for statutorily protected species.
- An evaluation of the ecological significance of the site.
- The identification of any potential development constraints and the specification of the scope of mitigation and enhancement required in accordance with wildlife legislation, planning policy and other relevant guidance, and;
- The identification of any further surveys or precautionary assessments that may be required prior to the commencement of any development activities.

3. METHODOLOGY AND SOURCES OF INFORMATION

3.1 Data Search

3.1.1 The Envirotech dataset, and the Multi-Agency Geographic Information for the Countryside (MAGIC) were searched to establish the presence of any records of statutorily protected, notable or rare species, and any designated sites of international, national, regional or local importance within a 2km radius of the site boundary.

3.1.2 The Envirotech dataset is compiled from extensive field surveys from the period 2004-present, as well as records obtained from third parties during this time.

3.1.3 Google Earth and Google Street View were consulted to establish the presence of any features of ecological importance within the local area.

3.1.4 Due to the scale of development, in accordance with CIEEM guidelines, a data search of the county records centre was not required. The likely presence and impact on protected species could be adequately determined from the level of data search undertaken.

3.2 Vegetation and Habitats

3.2.1 A vegetation and habitat map was produced for the site and the immediate surrounding area. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC 2003).

3.2.2 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act (1981) and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (1991).

3.2.3 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act (1981), namely Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) on terrestrial habitat and aquatic species such as floating pennywort (*Hydrocotyle ranunculoides*), water hyacinth (*Eichhornia crassipes*) and New Zealand pygmyweed (*Crassula helmsii*).

3.3 Timing and Personnel

3.3.1 During the visit, weather conditions were suitable for the survey types undertaken.

3.3.2 The site and surrounding land was visited on the 18th June 2021 by

- (SC) Ms Sian Comlay BSc (Hons)
  Natural England Great Crested Newt Licence (Level 2)
  Natural England Bat Class Licence (Level 2)

4. SPECIES SURVEY METHODOLOGY

4.1 Amphibian

4.1.1 Great crested newts (*Triturus cristatus*) are protected under Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedule 5 of the Wildlife & Countryside Act (1981).

4.1.2 Water-bodies located within or adjacent to the study area were identified and where access was possible were assessed for their potential to support great crested newts.

4.1.3 The criteria used in the assessment are based on those contained in the Herpetofauna Workers Manual and Oldham et al, 2000, and in applying these criteria a precautionary approach was adopted. Following the criteria developed by Oldham et al (2000), the HSI tool developed for use with great crested newts and forming part of Natural England's Licensing process was used to determine the suitability of ponds for great crested newts.

4.1.4 The pond assessment was undertaken in order to determine which water-bodies, based on their potential to support great crested newts, should be subject to presence/absence surveys.

4.1.5 Water samples were taken for environmental DNA testing for Great Crested Newt presence/absence following the methodology described by Briggs J et al (2014). These were sent to SureScreen Scientifics for analysis.

4.2 Badger

4.2.1 Badgers (*Meles meles*) and their setts are protected under the Protection of Badgers Act (1992). This legislation arises from animal welfare issues (rather than on the basis of nature conservation grounds) and protects badgers from being killed, injured or disturbed whilst occupying a sett.

4.2.2 A disturbance to badgers in their setts may occur as a result of construction operations. Natural England recommends that the use of heavy machinery in proximity of a sett entrance should be avoided, with a 'disturbance free-zone' being established.

4.2.3 The degree of disturbance attributed to construction activity is a function of the background level of activity badgers are accustomed to and that which will be attributed to a proposed activity. The "disturbance free zone" is therefore site specific.

4.2.4 The survey for badgers comprised an assessment of all suitable habitat within and outside the study area boundary (where this was possible) to a distance of 30m for indications of use by badgers.

4.2.5 Signs of badgers which were searched for included:

- Setts - 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
- Discarded bedding at sett entrances (this includes grass and leaves)

- Scratching posts on shrubs and trees close to a sett entrance
- The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip
- Dung pit latrines and footprints
- Habitual runs through vegetation and beneath fences
- Hedgehog carcases

4.3 Bats

4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, as a Protected Species. Taken together, these pieces of legislation make it an offence to:

- Intentionally or recklessly kill, injure or capture bats;
- Deliberately or recklessly disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts.

4.3.2 The Bat Conservation Trust (Hundt (2012) and Collins, J. (ed) (2016) issued guidelines on bat survey methodology, a key feature of their recommendation is for the undertaking of a pre-survey assessment – an initial desk-study and a walkover assessment of the survey area and its surrounding area to identify the relative value of the habitats present for bats and likely commuting routes. This is to be followed by a survey program that is appropriate to the likely level of bat activity within the survey area to be determined by and based on the experience of the surveyor.

4.3.3 The potential value of the survey area for foraging bats was assessed through consideration of two main factors: professional knowledge of bat ecology and foraging behaviour in combination with the geographical location, topography and habitats present within the survey area and surrounds. This resulted in the production of a map showing habitat quality both on and adjacent to the site.

4.3.4 Trees and structures on and within the survey area boundary were assessed for their potential to support roosting or hibernating bats. This comprised a close inspection of all trees and buildings on the site to allow an assessment of their potential to be used by bats to be made by a licensed surveyor.

4.3.5 Trees were all assessed in accordance with Collins, J. (ed) (2016).

4.4 Birds

4.4.1 All breeding birds, other than pest species, are protected under the Wildlife and Countryside Act of 1981 when building a nest, rearing young or sitting on eggs. Some bird species, such as barn owl (*Tyto alba*), are protected when near an active nest site. Several birds are listed as UK and or County BAP species.

4.4.2 Bird species and behaviour was noted during the other field surveys. All areas are covered equally, in order to avoid the subjective survey of better quality 'bird habitat'.

4.5 Invertebrates

4.5.1 A general assessment was made of the study area's suitability for supporting invertebrates during the phase 1 survey. The study area's lack of habitat diversity, species-poor composition and uniformity of vegetation structure (i.e., lack of variation in height and microtopography) resulted in our belief that a low diversity of invertebrates would be likely to occur across the site.

4.5.2 The presence of invertebrates was noted during the other surveys which were undertaken. The extent of sampling was limited in that it could be confirmed that no priority or BAP species would be likely to be affected by the proposal.

4.6 Otter

4.6.1 Otters (*Lutra lutra*) are given protection by the Wildlife and Countryside Act (1981) as amended and Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

This protection means that it is an offence to deliberately or recklessly:

- Kill or injure otters;
- Destroy, damage or obstruct their dens, and
- Disturb them whilst in the den.

4.6.2 Waterbodies were assessed for their suitability and for the presence of otters within 10m of the banks. The banks and scrub vegetation were carefully searched for spraints, feeding remains, runs, prints and couches/holts.

4.7 Reptiles

4.7.1 All native reptiles are protected in Britain under the Wildlife and Countryside Act of 1981. It is an offence to intentionally kill, injure, sell or advertise to sell any of the six native species.

4.7.2 The survey for these species was based on assessing the habitat type and suitability of the site. This comprised an assessment of satellite imagery for the site and surrounding area as well as comparison of the results from the records searches with habitat types. The general habitat at the site was evaluated in terms of its suitability to reptiles for foraging or breeding.

4.7.3 Reptile surveys comprising visual encounter surveys were undertaken. Habitat at the site was not considered sufficiently suitable for a full presence/ absence survey to be warranted.

4.8 Water Vole

4.8.1 Water voles (*Arvicola amphibious*) and their habitat are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981). This provides protection from killing or taking by certain prohibited methods and their breeding and resting places are fully protected from destruction or obstruction, it is also an offence to disturb them in these places.

4.8.2 There is a pond on site. This waterbody was surveyed and assessed for evidence of the presence of water vole.

4.8.3 This involved intensive searches; looking for burrows and other signs including footprints, droppings and chewed vegetation. This was undertaken up to 5m from the waterbody.

4.9 Survey limitations

4.9.1 Due to the habitats present on site there were no significant constraints in respect of identifying the botanical interest of the site.

4.9.2 The duration, extent and scope of the surveys were considered sufficient to plan appropriate mitigation and recommend additional precautionary survey work required prior to the commencement of work.

4.9.3 No significant survey limitations were encountered.

5. RESULTS

5.1 Data Search

5.1.1 Envirotech hold no records of protected or notable species for the site. There are however records of protected or notable species within 2km (Figure 2). These are discussed in the relevant sections below.

5.1.2 There are no statutory protected sites within 2km of the survey area (Figure 3).

5.1.3 The survey area falls within the Site of Special Scientific Interest (SSSI) Impact Risk Zone for multiple SSSIs, the closest being Charnock Richard Pasture located approximately 2.6km to the north west. Although the survey area falls within the SSSI Impact Risk Zones for these sites, the proposed development does not fall within any of the Risk Zone Categories, therefore, SSSI Impact Risk Zones are not considered to be a notable constraint.

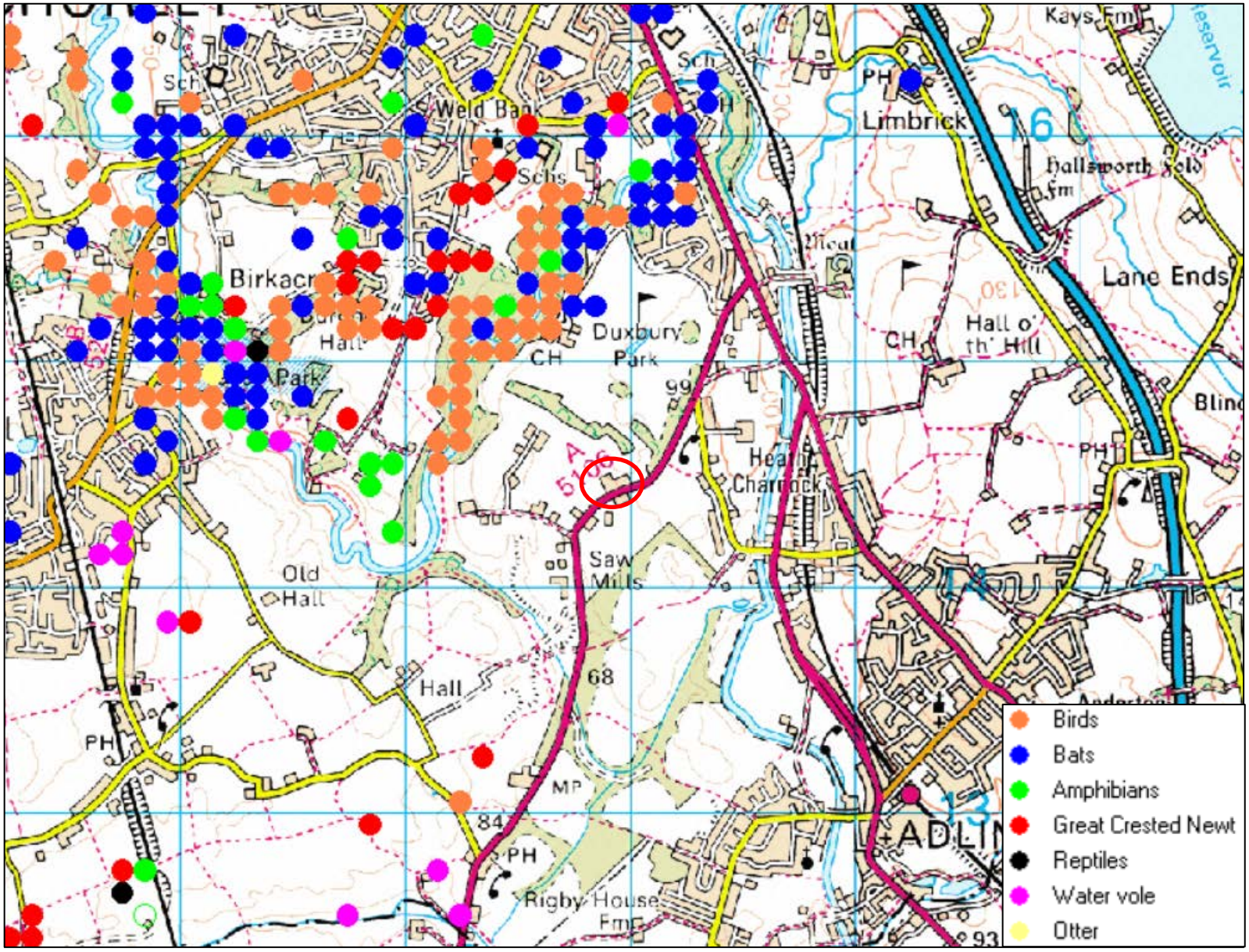

Figure 2 *Notable species records, site location is circled red.*

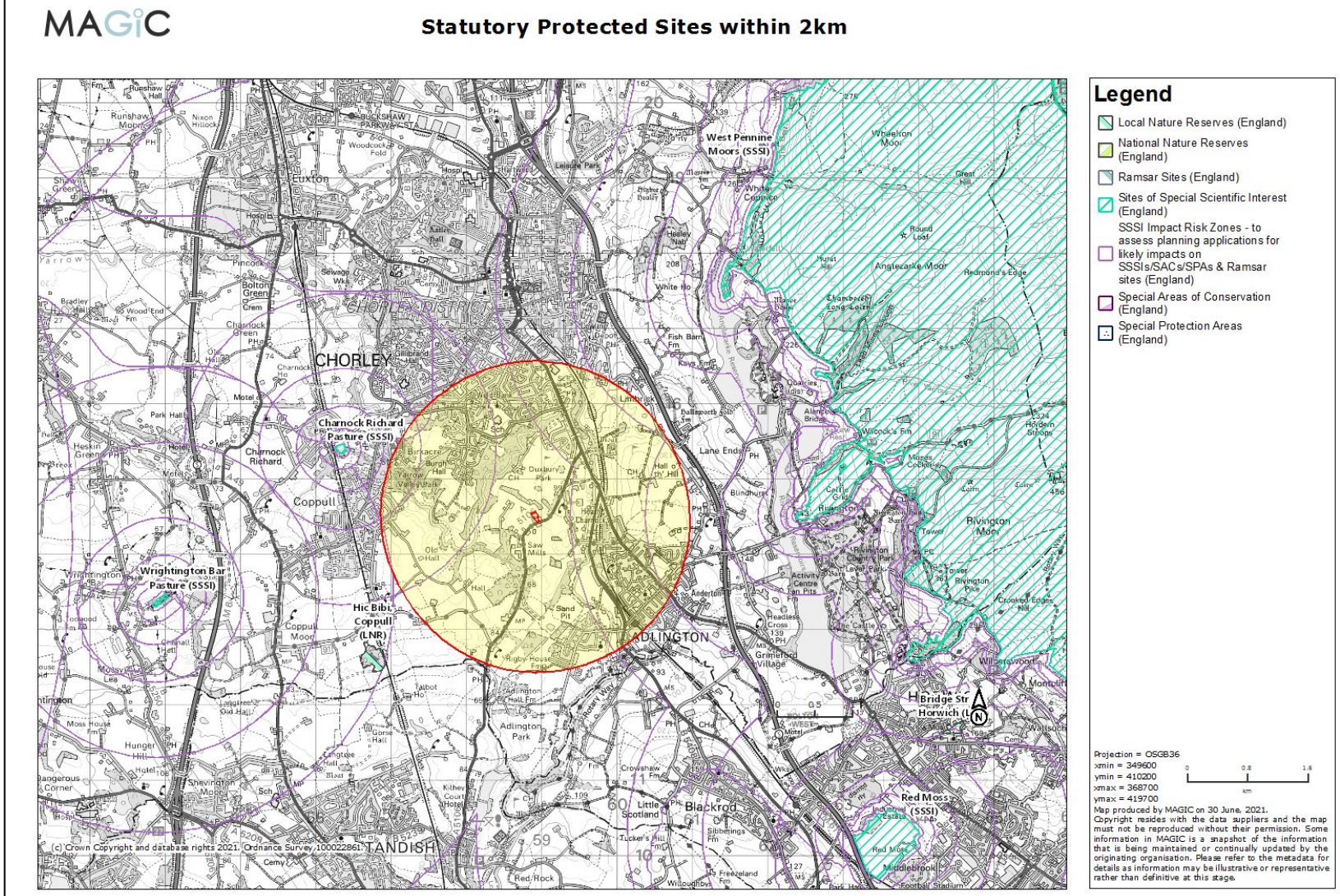

Figure 3 *Statutory designated sites 2km buffer.*

6. PHASE 1 SURVEY RESULTS

6.1 Habitat Results

6.1.1 The site comprises amenity grassland, introduced shrubs, buildings and areas of hardstanding with scattered trees and hedgerows along the peripheries. The site is bound by unmanaged grassland to the north residential dwellings to the east and west and Wigan Lane to the south. The wider landscape is dominated by agricultural land, a golf course, woodland, residential dwellings and industrial buildings.

6.1.2 See Figure 4 for the Phase 1 Habitat Plan and Table 1 for the descriptive Target Notes.

Target Note	Description	Comment
TN1	Amenity grassland	The survey area is dominated by short mown amenity grassland comprising the residential garden of Hoole Cottage. Species recorded within the grassland include Perennial Ryegrass (*Lolium perenne)*, Meadow grass *(Poa* sp.*)*, Cocksfoot *(Dactylis glomerata)*, Yorkshire Fog *(Holcus lanatus)*, Timothy-grass *(Phleum pratense)*, Creeping buttercup *(Ranunculus repens)*, White clover *(Trifolium repens)*, Greater Plantain *(Plantago major)*, Daisy *(Bellis perennis)*, Common mouse ear chickweed *(Cerastium fontanum)*, Ribwort Plantain *(Plantago lanceolata)* and Dandelion *(Taraxacum officinale).*
TN2	Introduced shrubs	Introduced shrubs are present around the peripheries of the site. The area of introduced shrubs in the south of the site is on a mound. Species recorded within these areas include *Euphorbia* sp., Laurel *(Prunus laurocerasus)*, *Berberis* sp., *Rhododendron* sp., Rose *(Rosa* sp.*)*, *Acer* sp., *Geranium* sp., Leylandii *(Leylandii x Cupressocyparis leylandii)*, Wood avens *(Geum urbanum)*, Ivy *(Hedera* sp.*)*, Creeping buttercup, *Cotoneaster* sp., Rush *(Juncus* sp.*)*, Lady's mantle *(Alchemilla* sp.*)*, Buddleia *(Buddleia Sp.)*, *Wisteria* sp., Comfrey *(Symphytum* sp.*)*, Privet *(Ligustrum* sp.*)*, Herb-Robert (*Geranium robertianum*), Foxglove *(Digitalis purpurea)*, Horsetail *(Equisetum* sp.*)*, Oak sapling *(Quercus* sp.*)*, Fox and cubs *(Pilosella* sp.*)*, *Hosta* sp., *Scutellaria* sp., *Hebe* sp., *Spiraea* sp. and *Cyanus* sp..
TN3	Hardstanding	Paved and gravel areas are present around the buildings. These areas are devoid of significant vegetation.
TN4	Buildings	There are multiple buildings on site comprising a residential dwelling, garage, sheds and a summer house.
TN5	Standing water	An ornamental pond is present in the north of the site. This pond is stocked with carp. There was a lack of macrophyte within the pond, however, vegetation was present around the banks of the pond. Species recorded include Yellow flag iris *(Iris pseudodacorus)*, Soft Rush (*Juncus effusus)*, *Juncus* sp.*, Typha* sp., Nettle, Broadleaved dock, Pendulous Sedge *(Carex pendula)*, Water mint *(Mentha aquatica)*, Thistle, Creeping buttercup, St Johns wort *(Hypericum* sp.*)*, Meadow buttercup *(Ranunculus acris)*, Bindweed *(Convolvlus* sp.*)*, Herb Robert, Pineapple Mayweed *(Matricaria matricarioides)*, Vetch *(Vicia* sp.*)*, Willowherb, *Sorbus* sp. and *Rubus* sp.

TN6	Species poor intact hedgerow	Three species poor intact hedgerows are present on site. Hedgerow 1 – a species poor intact hedgerow along the south eastern boundary of the site. Species recorded within the hedgerow include Leylandii, Laurel and Bamboo *(Bambusa* sp.*)*. Species recorded within the ground flora include Nettle, Ivy and Creeping buttercup. Hedgerow 2 – is a small section of leylandii hedgerow in the north west of the site. The ground flora below this hedgerow comprised Nettle, Bittercress and Cleavers. Hedgerow 3 – a small section of intact Laurel hedgerow with no significant ground flora in the east of the site.
TN7	Species poor defunct hedgerow	A single defunct hedgerow is present along the southern boundary of the site. This is a recently planted Leylandii hedgerow with no ground flora.
TN8	Scattered trees	Scattered trees are present along the peripheries of the site either on the site boundary or adjacent to the site and overhanging the site boundary and around the pond. Species recorded include Beech *(Fagus sylvatica)*, Copper beech *(Fagus sylvatica* f. *purpurea)*, Willow *(Salix* sp.*)*, Oak, Hawthorn *(Crataegus monogyna)*, Alder *(Alnus glutinosa)*, Rowan (*Sorbus aucuparia)*, Aspen *(Populus tremula)* and Cherry *(Prunus avium)*. A single stand of Himalayan Balsam *(Impatiens glandulifer)* was identified adjacent to the site boundary in the tree line in the north east of the site (approximate location marked with target note).
TN9	Fence	Wooden post and wire, wooden post and rail and wooden board fences are present around the site boundaries. Occasional Nettle *(Urtica dioica)*, Cleavers *(Galium aparine)*, Bramble *(Rubus fruticosus agg)*, Herb-Robert, Willowherb *(Epilobium* sp.*)*, Garlic mustard (*Alliaria petiolata)*, Sow thistle *(Sonchus* sp.*)*, Bittercress *(Cardamine hirsuta)* and Broadleaved dock *(Rumex obtusifolius)* were recorded along the peripheries of the site.
TN10	Other habitat	A compost heap containing garden cuttings is present in the north west of the site. Nettle, Bindweed, Creeping buttercup and Cleavers were recorded growing within this area.
TN11	Bats	The buildings and trees on the site have low to negligible potential for use by roosting bats. The vegetation around the peripheries of the site and the pond do however provide suitable foraging and commuting opportunities for bats.
TN12	Birds	The trees, hedgerows and introduced shrubs provide suitable foraging and nesting opportunities for birds.
TN13	Amphibians	A further assessment has been carried out to determine the use of the pond by great crested newts with eDNA testing being undertaken.

Table 1 *Details of Target Notes.*

Key

Boundary

Habitat

Building

Hardstanding

Cultivated/Disturbed Land - Amenity Grassland

Cultivated/Disturbed Land - Introduced Shrub

Standing Water

Other Habitat

Parkland/scattered Trees - Broad-leaved

Intact Hedge - Species-poor

Defunct Hedge - Species-poor

Fence

Target Note

Figure 4

Phase 1 Habitat Survey

envirotech

	Survey area dominated by short mown amenity grassland
	Residential dwelling in the south of the site Gravel access and paving stones around the building
	Garage to be demolished

	Ornamental pond and summer house in the north east of the survey area Scattered trees present along the eastern boundary
	Introduced shrubs, scattered trees and hedgerows in the south of the site

Table 2 *Photographs*

6.2 Vegetation

6.2.1 Details of the plant species found on site are included in the target notes. Species recorded are all commonly occurring and undoubtedly occur elsewhere in similar habitats in the local area.

6.2.2 The amenity grassland has a very low species diversity and ecological value. The species are all indicative of regular management and disturbance, this habitat does not constitute a BAP habitat.

6.2.3 The areas of introduced shrubs have moderate diversity and ecological value.

6.2.4 The intact hedges bounding the site are species poor and contain a low diversity of woody plant species but all hedgerows are a UK BAP habitat. They should be retained in any proposed scheme and where lengths need to be lost, they should be transplanted or new hedges planted as compensation.

6.2.5 Defunct species poor hedgerow in the south of the site also has a low ecological value and has no understory. Should this hedgerow need to be lost, transplanting is unlikely to be of ecological benefit. New shrub/ scrub planting would be suitable compensation for the loss.

6.2.6 None of the hedgerows are classified as important under the Hedgerow Regulations (1997) (See Appendix 1).

6.2.7 Trees within the site boundary comprise young to mature specimens of varying species.

6.2.8 There is no evidence of Japanese knotweed, giant hogweed or Himalayan balsam on the site. However, a single stand of Himalayan balsam was identified adjacent to the fence within the tree line adjacent to the north eastern boundary of the site. Himalayan balsam is a species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended). Cotoneaster and Rhododendron were also recorded within the areas of introduced shrubs, these species present on site are not considered to be the ones listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended), however, these species are known to hybridise.

6.2.9 No other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) were identified within the site or adjacent land.

6.3 Amphibian

6.3.1 There are numerous records for amphibians within 2km of the site. Species recorded within 2km include Common Frog *(Rana temporaria)*, Common Toad *(Bufo bufo)*, Smooth newt *(Lissotriton vulgaris)*, Palmate newt *(Lissotriton helveticus)* and Great crested newt *(Triturus cristatus)*.

6.3.2 A search of OS mapping data and aerial imagery identified two ponds within 250m of the core development area (Figure 5).

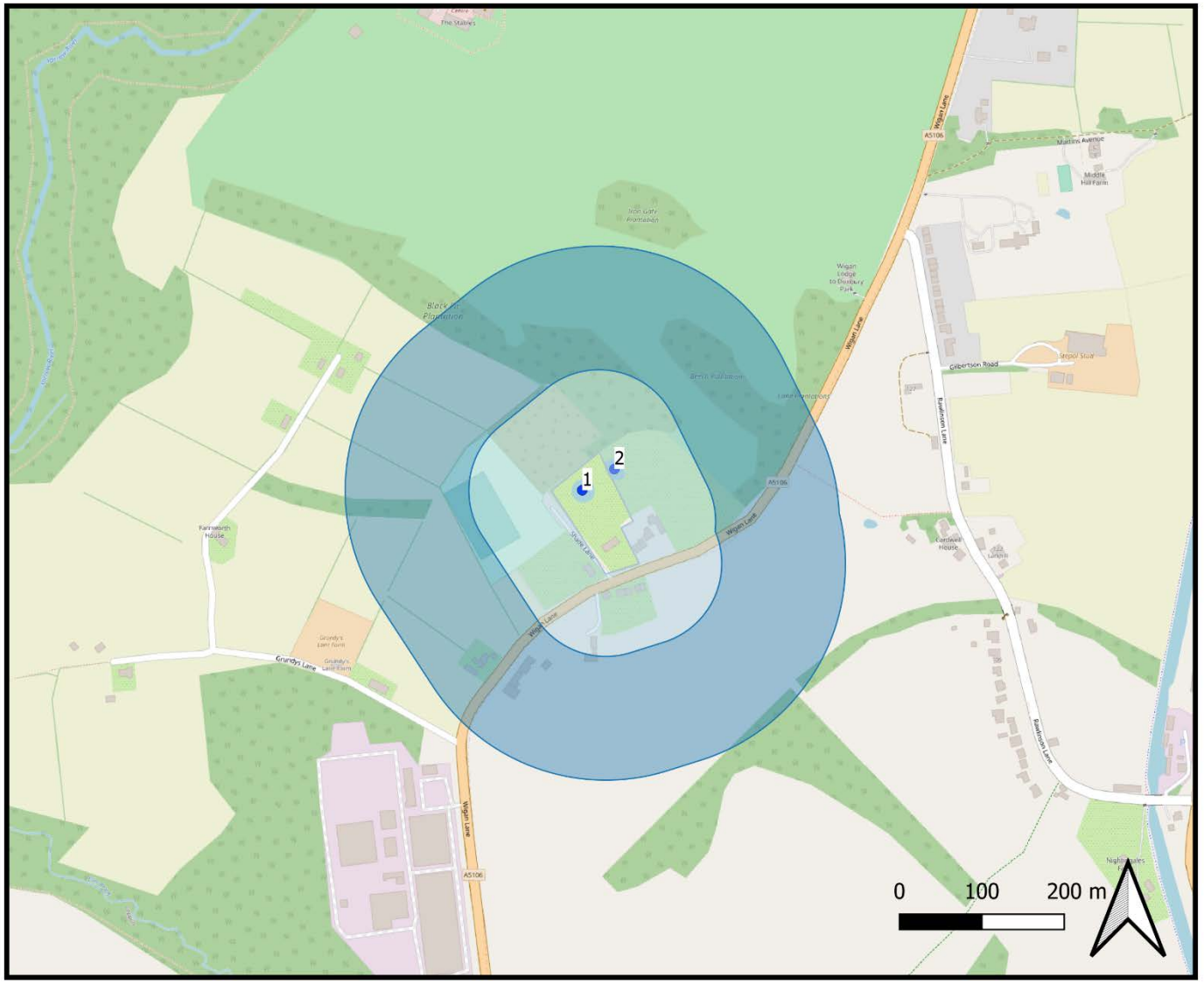

Figure 5

Ponds within 100m and 250m Buffer of the Survey Area

envirotech

6.3.3 Pond 1 is located within the survey area and pond 2 is located approximately 5m from the site boundary.

6.3.4 During the site visit Pond 2 was found to be dry and therefore this pond was not considered to provide suitable breeding habitat for amphibians and has been ruled out of any further assessment.

6.3.5 Pond 1 is an ornamental garden pond which is known to be densely stocked with fish.

6.3.6 Following the criteria developed by Oldham et al (2000), the HSI tool developed for use with great crested newts and forming part of Natural England's Licensing process was used to determine the suitability of the mill pond for great crested newts. The HSI was developed as a tool to aid fieldworkers to give ponds and their surrounding habitat a numerical score in terms of their suitability for great crested newts. See Table 3.

Pond Number	**1**
Location	1
Pond area	0.9
Pond drying	0.9
Water quality	0.33
Shade	1
Fowl	1
Fish	0.01
Ponds	0.9
Terrestrial habitat	0.67
Macrophytes	0.5
HSI	*0.49 (Poor)*

Table 3 *Results of Habitat Suitability Index*.

6.3.7 Pond 1 has a HSI score of 0.49 (Poor) suitability for use y great crested newts, this is due to the high stocking densities of fish within the pond and lack of macrophyte cover.

6.3.8 EDNA testing of pond 1 was undertaken in accordance with the methodology described by Biggs et al (2014). EDNA analysis was undertaken by Surescreen Scientifics. The results are appended and show the pond to be negative for the presence of great crested newts.

6.3.9 Water samples were taken from pond 1 for environmental DNA (eDNA) analysis. The results of the samples found the pond to be negative for great crested newt presence (Appendix 2). Therefore great crested newts are considered to be absent from the site.

6.3.10 The core development area has a low value to amphibians being dominated by hardstanding, aa building and short mown amenity grassland. The boundary hedgerows, scattered trees and introduced shrubs could be utilised as refuges and/or hibernacula.

6.3.11 Structural diversity at ground level across the site is very poor. There are no areas with log, rubble piles or compost heaps within the core development area in the west of the site which would be particularly favourable to amphibians.

6.3.12 Amphibians would be unlikely to attempt to cross the site as it comprises an area that is mostly open with uniform length grass. Whilst not a physical barrier to the dispersal of amphibians, the site is regarded as being a potentially hostile environment to them.

6.3.13 The proposed development will not result in the permanent loss of or a substantial negative effect on any waterbodies or foraging areas linked to them. Boundary areas which may provide foraging or refuge sites, are to be retained.

6.3.14 Although the pond on site is not known to support great crested newts, it may be used by common amphibians, which are less prone to fish predation than great crested newts. As such precautionary mitigation would be appropriate in respect of construction activities.

6.4 Badger

6.4.1 No records of badgers occur within 2km of the site.

6.4.2 Badger setts do not occur on site and a lack of feeding signs or runs across the site would suggest that they do not occur within 30m of site boundaries.

6.4.3 The proposed development will not impact on any existing badger runs or setts. The porosity of the surrounding fields to the passage of badgers will not be affected.

6.5 Bats

6.5.1 There are over 500 records of at least eight species of bat within 2km of the site. Species provided by the data search include Unidentified bat *(Chiroptera* sp.*)*, Serotine *(Eptesicus serotinus)*, Daubenton's *(Myotis daubentonii)*, Whiskered *(Myotis mystacinus)*, Myotis bat *(Myotis* sp.*)*, Natterer's *(Myotis nattereri)*, Noctule *(Nyctalus noctula)*, Common Pipistrelle *(Pipistrellus pipistrellus)*, Soprano Pipistrelle *(Pipistrellus pygmaeus)* and Brown Long-Eared *(Plecotus auritus).*

6.5.2 The foraging habitat within the core development area is very poor for bat species being dominated by hardstanding, a building and amenity grassland, which offer negligible foraging opportunities for bats.

6.5.3 The hedgerows, trees around the peripheries of the site offer suitable foraging and commuting opportunities for bats. Whilst these areas of the site are the most structurally diverse but they are not considered exceptional in the local area. More extensive areas of medium and high quality habitat occur locally, including the woodland and existing residential dwellings adjacent (Figure 6).

6.5.4 It is not considered there would be significant degradation of foraging habitat as a result of the proposal so long as the hedgerows and trees are retained and or their loss is compensated for in any landscaping scheme.

6.5.5 All trees within the site were also assessed in accordance with Collins ed. (2016) and assigned a risk category. All of the trees on site were category 2 (low) or category 3 (negligible) risk (Figure 7). No indications of roosting or highly suitable roost sites were located within the trees. All of the trees could be adequately inspected. Risk categories

from Hundt (2012) and the requirement for mitigation for each tree category are shown on Figure 8.

6.5.6 There are multiple buildings on site which comprise a residential dwelling, garage, summer house and sheds. It is understood that only the garage will be impacted by the proposed works, as it is to be demolished to facilitate the development.

6.5.7 The garage is constructed from rendered breezeblock under a corrugated metal sheet roof with roof lights. The walls are generally in good condition, however, a low number of cracks in the render were identified, these gaps were either considered too small for use by roosting bats or were covered in dense cobwebs, indicating no recent use. On the south eastern elevation of the garage was an area of wooden cladding which appeared to be in good condition, although the associated wooden barge boards were warped and large gaps were resent between the barge board and wooden cladding, these gaps were considered too wide and exposed to the weather for use by roosting bats. The roof was unlined and the internal area of the building highly illuminated from the presence of roof lights, reducing suitability for use by roosting bats. No indication of use by bats could be found. This building is considered to have very low – negligible potential for use by roosting bats.

6.5.8 We consider bat species are highly unlikely to rely on the site for feeding but may occur in the local area. Roosting by bats is also considered unlikely to occur on the site.

Figure 6

Extended Bat Habitat Survey

envirotech

Key

Boundary

Tree Risk Category

Figure 7

Bat Tree Risk Categories

envirotech

Tree category and description	Stage 1 Initial survey requirements	Stage 2 Further measures to inform proposed mitigation	Stage 3 Likely mitigation
Known or confirmed roost	Follow SNCO guidance and these guidelines wherever possible, to establish the extent to which bats use the site. This is particularly important for roosts of high risk species and/or roosts of district or higher importance and above		The tree can be felled only under EPS licence following the installation of equivalent habitats as a replacement.
Category 1* Trees with multiple, highly suitable features capable of supporting larger roosts	Tree identified on a map and on the ground. Further assessment to provide a best expert judgement on the likely use of the roost, numbers and species of bat, by analysis of droppings or other field evidence. ***A consultant ecologist is required***	Avoid disturbance to trees, where possible. Further dusk and pre-dawn survey to establish more accurately the presence, species, numbers of bats present and the type of roost, and to inform the requirements for mitigation if felling is required.	Felling would be undertaken taking reasonable avoidance measures[3] such as 'soft felling' to minimise the risk of harm to individual bats.
Category 1 Trees with definite bat potential, supporting fewer suitable features that category 1* trees or with potential for use by single bats	Tree identified on a map and on the ground. Further assessed to provide a best expert judgement on the potential use of suitable cavities, based on the habitat preferences of bats. ***A consultant ecologist required***	Avoid disturbance to trees, where possible. More detailed, off the ground visual assessment. Further dusk and pre-dawn survey to establish the presence of bats, and if present, the species and numbers of bats and type of roost, to inform the requirements for mitigation if felling is required.	Trees with confirmed roosts following further survey are upgraded to Category 1* and felled under licence as above. Trees with no confirmed roosts may be downgraded to Category 2 dependent on survey findings
Category 2 Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.	None. ***A consultant ecologist is unlikely to be required***	Avoid disturbance to trees, where possible. No further surveys.	Trees may be felled taking reasonable avoidance measures. Stop works and seek advice in the event bats are found, in order to comply with relevant legislation.
Category 3 Trees with no potential to support bats	None. ***A consultant ecologist is not required unless new evidence is found***	None.	No mitigation for bats required.

Figure 8 *Tree risk categories from Hundt (2012).*

6.7 Birds

6.7.1 There are over 1000 records of birds within 2km of the site. Woodpigeon (*Columba palumbus*) were noted on site during the survey.

6.7.2 The intact hedgerows, buildings, introduced shrubs and scattered trees offer potential habitat for feeding and nesting birds. The amenity grassland has a low potential for use by nesting birds as the grassland is managed and as such is usually short. Trampling risks are also very high within this area of the site.

6.7.3 The gappy defunct hedgerow within the site has insufficient density to be of high value to nesting birds.

6.7.4 There were no rot holes or cracks in the trees within the site boundary which would support tree hole nesting species such as woodpeckers.

6.7.5 A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.

6.7.6 Precautionary mitigation is considered appropriate. The landscaping scheme should include species such as rowan (*Sorbus aucuparia*) which are seed bearing and will provide food for birds in the winter.

6.7.7 The habitat on site is not considered to be of anything more than of local significance, habitats present are well represented in the local area. The impact on nesting birds is therefore considered likely to be minor.

6.8 Invertebrates

6.8.1 Numerous notable invertebrates have been recorded within 2km of the site.

6.8.2 No deadwood or vegetation on site was recorded which would provide an important resource for invertebrates in the local area.

6.8.3 Introduced shrubs and aquatic habitat has some value to species such as common butterflies but this is not considered to be locally significant.

6.8.4 Given the poor quality habitats contained within the core development area in comparison to the wider area, it is not considered that this site is of any local significance for invertebrates.

6.8.5 Impacts on the species are considered likely to be negligible, post development landscaping will create greater habitat diversity in the area than already exists.

6.9 Otter

6.9.1 There is a single record of otters within 2km of the site, located on the River Yarrow to the north west of the site.

6.9.2 No indication of the presence or past use of the site by otter was found.

6.9.3 The River Yarrow is located over 600m from the survey area. This is therefore considered to be a sufficient distance from the site that this species would not habitually occur on it, however, otter are known to travel long distances for foraging and the pond on site is stocked with fish, therefore there is potential for this site to be opportunistically used by otter for feeding.

6.9.4 Otter are considered to be absent from the site and are unlikely to be significantly impacted by the proposed development. Precautionary mitigation would be appropriate in respect of construction activities which will need to be restricted at night.

6.10 Reptiles

6.10.1 There are three records of Grass Snake *(Natrix natrix)* within 2km of the site.

6.10.2 The majority of the site has a very low value to reptiles being devoid of significant ground cover. There are no areas of the core development area in the west of the site which would be particularly favourable to reptiles.

6.10.3 Reptiles may occur along the boundary of the site and this provides linkage across the local landscape. It is however outside the site boundary and is unaffected by the proposal.

6.10.4 As a consequence, precautionary mitigation would be appropriate in respect of construction activities so as to ensure reasonable avoidance measures are taken to avoid the killing or injury of these species.

6.11 Water vole

6.11.1 There are 19 records of water voles within 2km of the site, these records are however all located over 1km from the site and there is no watercourse connectivity between the site and these areas.

6.11.2 The ornamental pond on site is considered to be suboptimal for use by water vole as the walls of the pond are unsuitable for burrow creation and there was no significant growth of rushes or reeds.

6.11.3 No signs of water vole such as droppings, feeding piles or footprints were identified on the site.

6.11.4 We consider this species is likely to be absent from the site. Precautionary mitigation would be appropriate.

6.12 Other

6.12.1 The boundary hedgerows are species poor and provide little potential for use by hedgehog (*Erinaceus europaeus*). Fragmentation of habitat locally and existing land use do not provide optimal conditions for the free passage of this species across the site and slugs and snails are likely to occur only at very low numbers.

6.12.2 The site may be crossed by species such as fox (*Vulpes vulpes*) and rabbit (*Oryctolagus cuniculus*) are known to occur locally.

6.13 Statutory Sites

Direct Impacts:

6.13.1 There are no statutory sites which are connected to the site such that site development would directly affect the dispersal of species between them or directly impact upon their integrity.

6.13.2 The habitats on site do not represent or are linked to those found in any of the statutory sites locally.

Indirect Impacts:

6.13.3 There are no statutory sites which are connected to the site such that site development would indirectly affect the dispersal of species between them or indirectly impact upon their integrity.

7. MITIGATION/RECOMMENDATIONS

7.1 Compensatory planting and habitat enhancement

7.1.1 The roots of trees on the site and its boundaries should be adequately protected during work in accordance with industry standards. All trees should as far as possible be retained in the scheme.

7.1.2 The landscaping scheme should utilise plants which are native and wildlife friendly. In particular night flowering species would be beneficial to bats. Wildflower seed could be used to plant verges to enhance the ecological value of the site and continuity between the site and the wider area.

7.1.3 Hedgerows around the site should be retained or improved where possible. Any lengths of intact hedgerow to be removed to facilitate development should be transplanted and or replanted in order that there is no net negative impact on this BAP habitat due to development. The roots of hedgerow plants/trees should be adequately protected during development from compaction/ground disturbance.

7.1.4 If the defunct species poor hedgerow is to be removed, transplantation is not considered to be of significant ecological benefit as there are no notable species assemblages associated with it, replanting of linear lines of trees/ shrubs would be more beneficial.

7.1.5 Vigilance should be maintained for the presence of Himalayan balsam on site and the ground along the north eastern boundary should remain undisturbed.

7.1.6 Care should also be maintained if Cotoneaster or Rhododendron are to be removed or impacted by the works to ensure no spread of these species.

7.2 Amphibians

7.2.1 In order to further minimise impacts on amphibians the following points should also be followed.

- All work must take place during daylight hours as amphibians are more likely to be commuting over night and this will ensure the risk to any amphibians commuting through the site will be minimised.

- During the development, measures should be put in place to discourage amphibians from using the development area, the creation of any piles of earth, materials and rubble which could form potential artificial hibernacula and refuge should be avoided at all times. It is recommended that any spoil or rubble will be removed immediately to skips, or on hard standing or short grass. This will ensure that no potential amphibian hibernation or resting sites are created.

- The storage of all loose materials must be palletised or similar so they are off the ground whenever possible.

- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure amphibians are not trapped during work.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

7.3 Badger

7.3.1 Badger setts are not known to occur within 2km of the site, however, there is suitable sett building habitat present within 2km. Therefore any setts present will be undisturbed by work but in order to minimise impacts on badgers passing over the site the following points should also be followed.

- All work must take place during daylight hours as badgers are more likely to be commuting over the site at night and this will ensure the risk to any badgers passing through the site will be minimised.

- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure badgers are not trapped during work.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

- Boundary fences/walls should incorporate gaps at their base to facilitate the passage of badgers across the site.

7.4 Bats

7.4.1 Work at night should be restricted, new planting within the site should enhance structural diversity and light spill onto the boundary should be prevented.

7.4.2 **If bats or bat roosts are found during work, all work should cease.** The site will need to be re-assessed in regard to its use by bats. A Natural England licence may be required if continuing work is, on balance, likely to result in the disturbance, killing or injury of bats or the alteration, destruction or obstruction of roost site.

7.4.3 New roosting provision for crevice dwelling bats could be incorporated into the created building on site or bat boxes could be erected in retained trees.

7.4.4 Any category 2 trees to be felled should be re-inspected for bats to confirm they remain absent.

7.4.5 Overall it is considered there is more than sufficient scope for mitigation and compensation at the site such that there will be no adverse impact on the favourable conservation status of bats affected by the proposal.

7.5 Birds

7.5.1 Nesting by birds within the development area is considered likely to occur. Birds may nest within hedgerows, trees and building on the site.

7.5.2 Any vegetation to be trimmed or cleared or building to be demolished should be checked for nesting birds before it is removed. Ideally this should occur outside the bird nesting period March- September. If vegetation clearance is to occur in the March-September period a check for nesting birds should be conducted first by a suitably qualified individual.

7.5.3 New planting within the site and the retention of trees and shrubs on the site boundary will maintain the ecological functionality of the site for breeding birds.

7.5.4 Artificial bird nesting sites for swallow could be incorporated into the new buildings under the eaves in suitable locations.

7.5.5 If nesting birds are found at the site all site works shall cease and further ecological advice shall be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.6 Invertebrates

7.6.1 Landscaping should include native or wildlife friendly species including night flowering plants.

7.6.2 Contaminants should not be allowed to enter substrates or the pond during work. To effect this, spill kits should be provided on site. Re-fuelling of all plant and machinery should be undertaken away from open drains and water courses. Drip trays should be used under static machinery.

7.7 Otter

7.7.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any otter activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.7.2 The points in respect of not working at night and leaving open trenches with means of escape detailed for amphibians are also applicable to this species which is only likely to pass through the site at night.

7.8 Reptiles

7.8.1 There is no requirement for specific mitigation for these species. However, as a precautionary measure, in the unlikely event that any signs of any reptile activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.8.2 The points in respect of not leaving open trenches without means of escape detailed for badgers are also applicable to these species.

7.9 Water vole

7.9.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any Water vole activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

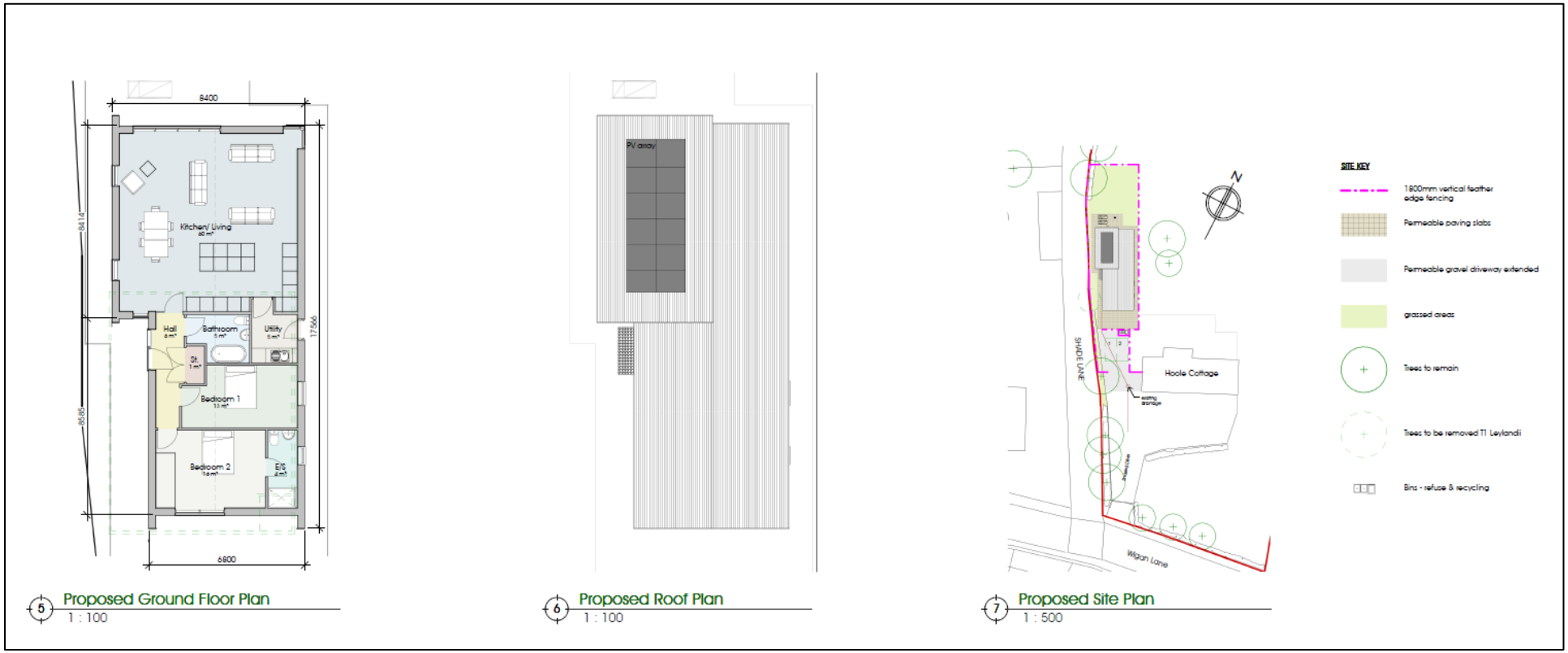

Figure 9 *Proposed site plan*

8. CONCLUSION

8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land at Hoole Cottage off Wigan Lane in Chorley. It is proposed that the existing garage is demolished and replaced with the construction of a new residential dwelling.

8.1.2 Bats, birds, amphibians, reptiles, water vole and otter are known to occur in the local area, there was however no conclusive evidence of any specifically protected species regularly occurring on the site or the surrounding areas which would be negatively affected by site development following the mitigation proposed.

8.1.3 The vegetation to be cleared has a low ecological significance in the local area; the trees close to but outside the development area are generally of low quality.

8.1.4 The protection of trees on the site boundary and landscaping will promote structural diversity in both the canopy and at ground level and will encourage a wider variety of wildlife to use the site than already occurs.

8.1.5 Contractors will be observant for protected species and all nesting birds. Should any species be found during construction, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

9. REFERENCES

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.

Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good practice guidelines (3rd edn). The Bat Conservation Trust, London.

DEFRA (2019). The Biodiversity Metric 2.0. Technical Supplement Beta Edition

Hundt, L. (2012) Bat Surveys: Good Practice Guidelines (Second Edition). BCT, London.

Joint Nature Conservation Committee (2010). Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit. Reprinted by JNCC, Peterborough. - See more at: http://www.cieem.net/habitats-general#sthash.mJYIrP8L.dpuf

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10 (4), 143-155.

Stace, C. (1991). New Flora of the British Isles. Cambridge University Press.

10. APPENDIX 1

Feature / Hedge	Length 20m +	Hedge is not bounding the curtilage of dwelling	Hedge established more than 30years	Hedge boundary of protected or common land or land used for agriculture or forestry	ARCHAEOLOGY AND HISTORY	Archaeological feature which is included in the schedule of monuments	Situated wholly or partly within an archaeological site	Boundary of a pre-1600 AD estate	Integral part of a field system	Protected species records	FEATURES	Bank or wall	Gaps less than 10%	Standard trees	Ditch	Parallel hedge	Footpath/ Bridleway	Connection points	Woody species	Average ground flora species	HEDGE CLASSIFIED AS IMPORTANT
1	Yes	No	Yes	No		No*	No*	No*	No*	No		-	-	-	-	-	-	-	-	-	**No**
2	Yes	No	Yes	No		No*	No*	No*	No*	No		-	-	-	-	-	-	-	-	-	**No**
3	No	No	Yes	No		No*	No*	No*	No*	No		-	-	-	-	-	-	-	-	-	**No**
4	Yes	No	No	No		No*	No*	No*	No*	No		-	-	-	-	-	-	-	-	-	**No**
	No = Automatic failure					Yes = Automatic pass						7 woody species or 6 woody species + 3 features or 5 woody species + 4 features or highway + 4 woody species and 2 features									

* Historic and archaeological records have not been checked for this site.

Key

Boundary

Hedgerow Number

Hedgerow Regulations Assessment

envirotech

11. APPENDIX 2

SureScreen Scientifics

Folio No: E11127
Report No: 1
Purchase Order: 2339, 6427, 7192
Client: ENVIROTECH
Contact: Andrew Gardner

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (TRITURUS CRISTATUS)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 22/06/2021
Date Reported: 30/06/2021
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
6310	CULCHETH HALL FARM	SJ 65863 95881	Pass	Pass	Pass	Negative	0
6427	HOOLE COTTAGE P1	SD 58897 14530	Pass	Pass	Pass	Negative	0
6430	LAND AT CROSS-A-MOOR	SD 26907 77445	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Chris Troth **Approved by:** Chris Troth

Forensic Scientists and Consultant Engineers
SureScreen Scientifics Ltd, Morley Retreat, Church Lane, Morley, Derbyshire, DE7 6DE
UK Tel: +44 (0)1332 292003 Email: scientifics@surescreen.com
Company Registration No. 08950940

SureScreen Scientifics

METHODOLOGY

The samples detailed above have been analysed for the presence of GCN eDNA following the protocol stated in DEFRA WC1067 'Analytical and methodological development for improved surveillance of the Great Crested Newt, Appendix 5.' (Biggs et al. 2014). Each of the 6 sub-sample tubes are first centrifuged and pooled together into a single sample which then undergoes DNA extraction. The extracted sample is then analysed using real time PCR (qPCR), which uses species-specific molecular markers to amplify GCN DNA within a sample. These markers are unique to GCN DNA, meaning that there should be no detection of closely related species.

If GCN DNA is present, the DNA is amplified up to a detectable level, resulting in positive species detection. If GCN DNA is not present then amplification does not occur, and a negative result is recorded.

Analysis of eDNA requires scrupulous attention to detail to prevent risk of contamination. True positive controls, negative controls and spiked synthetic DNA are included in every analysis and these have to be correct before any result is declared and reported. Stages of the DNA analysis are also conducted in different buildings at our premises for added security.

SureScreen Scientifics Ltd is ISO9001 accredited and participate in Natural England's proficiency testing scheme for GCN eDNA testing. We also carry out regular inter-laboratory checks on accuracy of results as part of our quality control procedures.

INTERPRETATION OF RESULTS

SIC: **Sample Integrity Check** [Pass/Fail]
When samples are received in the laboratory, they are inspected for any tube leakage, suitability of sample (not too much mud or weed etc.) and absence of any factors that could potentially lead to

Analysis of the spiked DNA marker to see if there has been degradation of the kit or sample between the date it was made to the date of analysis. Degradation of the spiked DNA marker may lead indicate a risk of false negative results.

Result: **Presence of GCN eDNA** [Positive/Negative/Inconclusive]
Positive: GCN DNA was identified within the sample, indicative of GCN presence within the sampling location at the time the sample was taken or within the recent past at the sampling location.
Positive Replicates: Number of positive qPCR replicates out of a series of 12. If one or more of these are found to be positive the pond is declared positive for GCN presence. It may be assumed that small fractions of positive analyses suggest low level presence, but this cannot currently be used for population studies. In accordance with Natural England protocol, even a score of 1/12 is declared positive. 0/12 indicates negative GCN presence.
Negative: GCN eDNA was not detected or is below the threshold detection level and the test result should be considered as evidence of GCN absence, however, does not exclude the potential for GCN presence below the limit of detection.