envirotech

**Ecological Consultants**
**Environmental and Rural Chartered Surveyors**

# Ecological Appraisal

# Land South of Lower Road, Longridge

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, CEnv, MCIEEM, 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 | Flora Whitehead | Date | 3/10/19 |
| Checked by | Andrew Gardner | Date | 8/10/19 |
| Report Version | 1 | | |
| Field data entered | ☐ | | |
| Report Reference | 5996 | | |

## Contents

# 1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned in September 2019 by David Wrigley Planning to carry out an ecological appraisal of land south of Lower Road, Longridge. It is proposed that new business units are 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 a licenced ecologist from Envirotech NW Ltd on the 2nd October 2019. 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. Sympathetically landscaped open space is considered to offer habitat of equal or greater ecological value.

1.1.5 The ponds in proximity to the site are considered to be of low quality and unlikely to support breeding populations of great crested newts

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

1.1.7 Bats may forage along the boundaries of the site which are to remain unaffected by the proposal. It is proposed that some roosting provision for bats will however be incorporated into the new business units on site.

1.1.8 Birds are likely to utilise hedgerows on site for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period.

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

# 2. INTRODUCTION

## *2.1 Background*

2.1.1 Envirotech NW Ltd were commissioned to carry out an Ecological Appraisal of land south of Lower Road (a.k.a Blackburn Road), Longridge, central grid reference SD61660 37066 (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 construction of new business units.

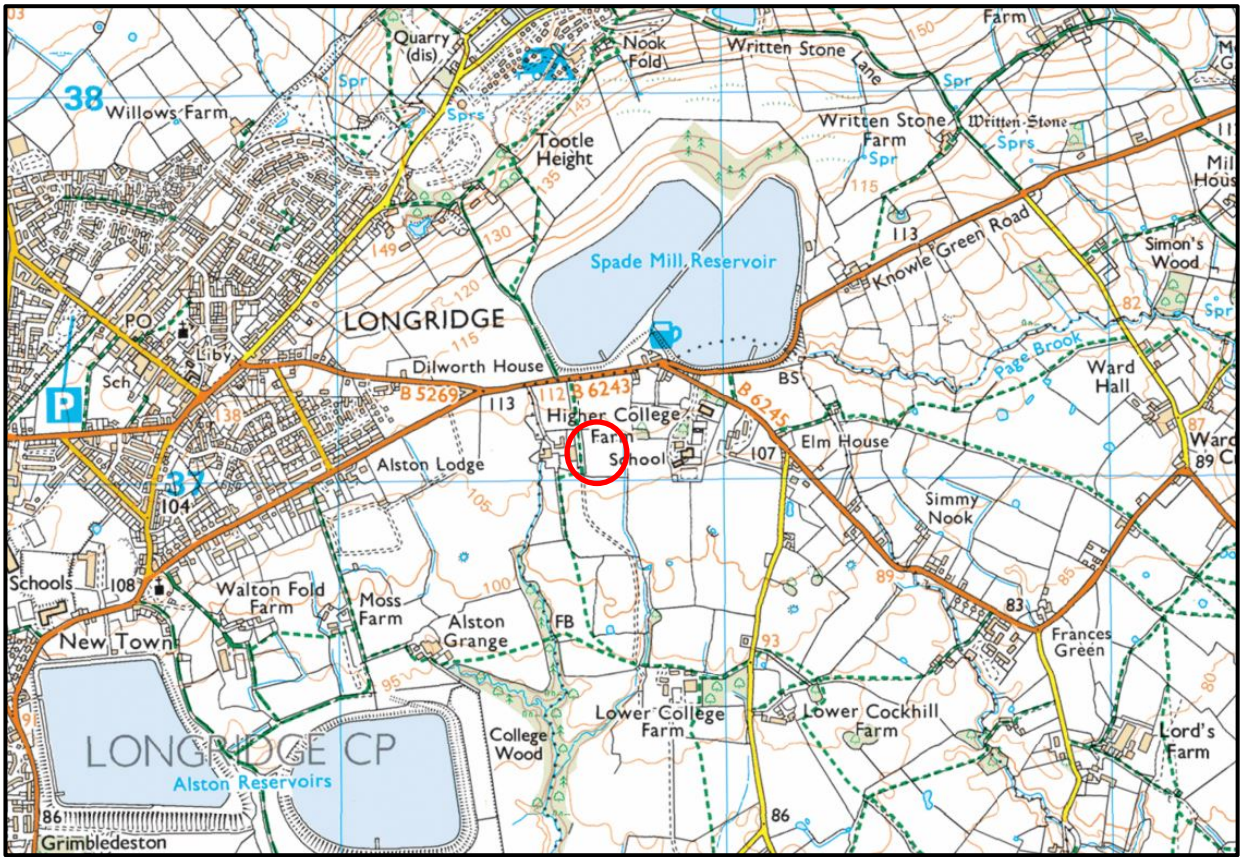



**Figure 1** *Site location at SD61660 37066 circled red.*

## *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 Biological Records centre for Lancashire "LERN", 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.

## *3.2 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*).

3.2.4 The survey was also informed by questioning the landowner/site agent to ascertain the recent history of the site.

## *3.3 Timing and Personnel*

3.3.1 During the visit, weather conditions were suitable for the survey types undertaken being warm and dry in autumn.

3.3.2 The site and surrounding land was visited on the 2nd October 2019 by

- (FW) Miss Flora Whitehead BSc (Hons)
  Natural England Bat Class Licence Agent (Level 1)

# 4. SPECIES SURVEY METHODOLOGY

## *4.1 Amphibian*

4.1.1 Great crested newts (*Triturus cristatus*) are listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. It is protected under Schedule 2 of the Conservation (Natural Habitats) Regulations (2017) 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 EPS 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.

## *4.2 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 Natural Habitats) Regulations (2017), as European 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 were all assessed in accordance with Collins, J. (ed) (2016) 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 on the site to allow an assessment of their potential to be used by bats to be made by a licensed surveyor.

## *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 Brown Hare*

4.5.1 The brown hare (*Lepus europaeus*) is a UK BAP species.

4.5.2 The survey method involved walking boundaries and surveying with binoculars. The survey was conducted at a suitable distance to ensure that the hares were not disturbed.

4.5.3 Where present the number of brown hares in each field or hedgerow was recorded, together with the nature and use of the field, climatic conditions and time of day. The presence of forms and faeces where present were also recorded.

## *4.6 Invertebrates*

4.6.1 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.

4.6.2 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.

## *4.7 Otter*

4.7.1 Otters (*Lutra lutra*) are given protection by Annexes II & IV of the Habitats Directive and by Schedule 5 of the Wildlife and Countryside Act (1981) as amended and Schedule 2 of the Conservation (Natural Habitats etc.) Regulations (2017).

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.

4.7.2 Watercourses 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.

## *4.8 Reptiles*

4.8.1 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.

4.8.2 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.

4.8.3 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.

## *4.9 Water Vole*

4.9.1 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.

4.9.2 There is a small drainage stream in a ditch on the east boundary of the field in which the site lies. This watercourse was surveyed and assessed for evidence of the presence of water vole.

4.9.3 This involved intensive searches by wading upstream where possible, and observing from the banks where not; looking for burrows and other signs including footprints, droppings and chewed vegetation. This was undertaken up to 5m from the water course.

## *4.10 Survey limitations*

4.10.1 Due to the habitats present on site there were no significant constraints in respect of identifying the botanical interest of the site. Bats were active at the time of the survey.

4.10.2 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.

4.10.3 No significant survey limitations were encountered.

# 5. RESULTS

## *5.1 Data Search*

5.1.1 Envirotech and LERN 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 The nearest non-statutory site is 180m to the north of the site, namely Spade Mill Reservoir Biological Heritage Site (BHS) (Figure 3). This is isolated from the site by the B6243 public highway. It is designated for its ornithological interest.

5.1.3 There are no statutory designated sites within 2km, the nearest being Red Scar and Tun Brook Woods Site of Special Scientific Interest (SSSI)), c.3.9km to the south-west (Figure 4).

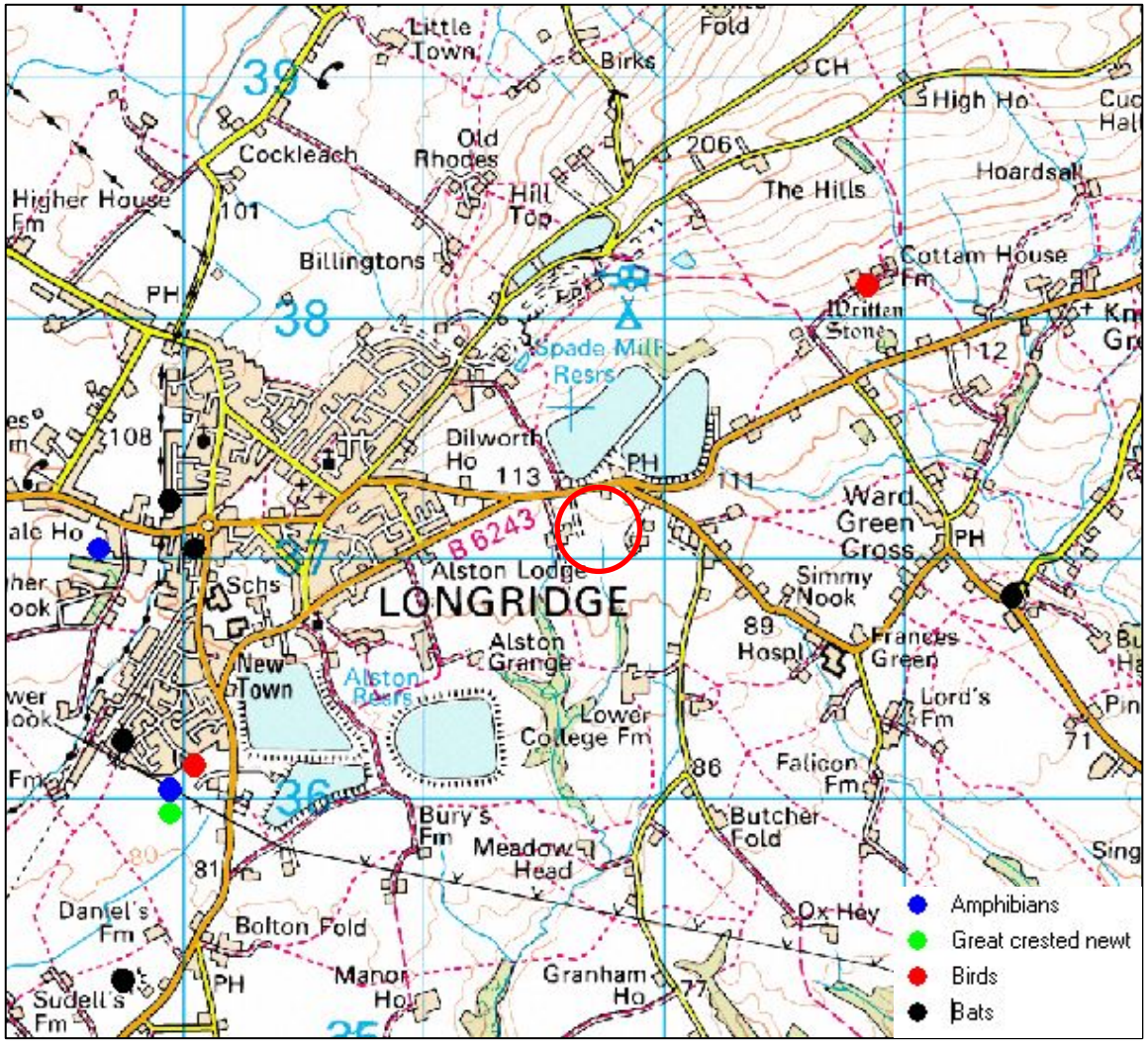



**Figure 2** *Notable species records, site location is circled red.*

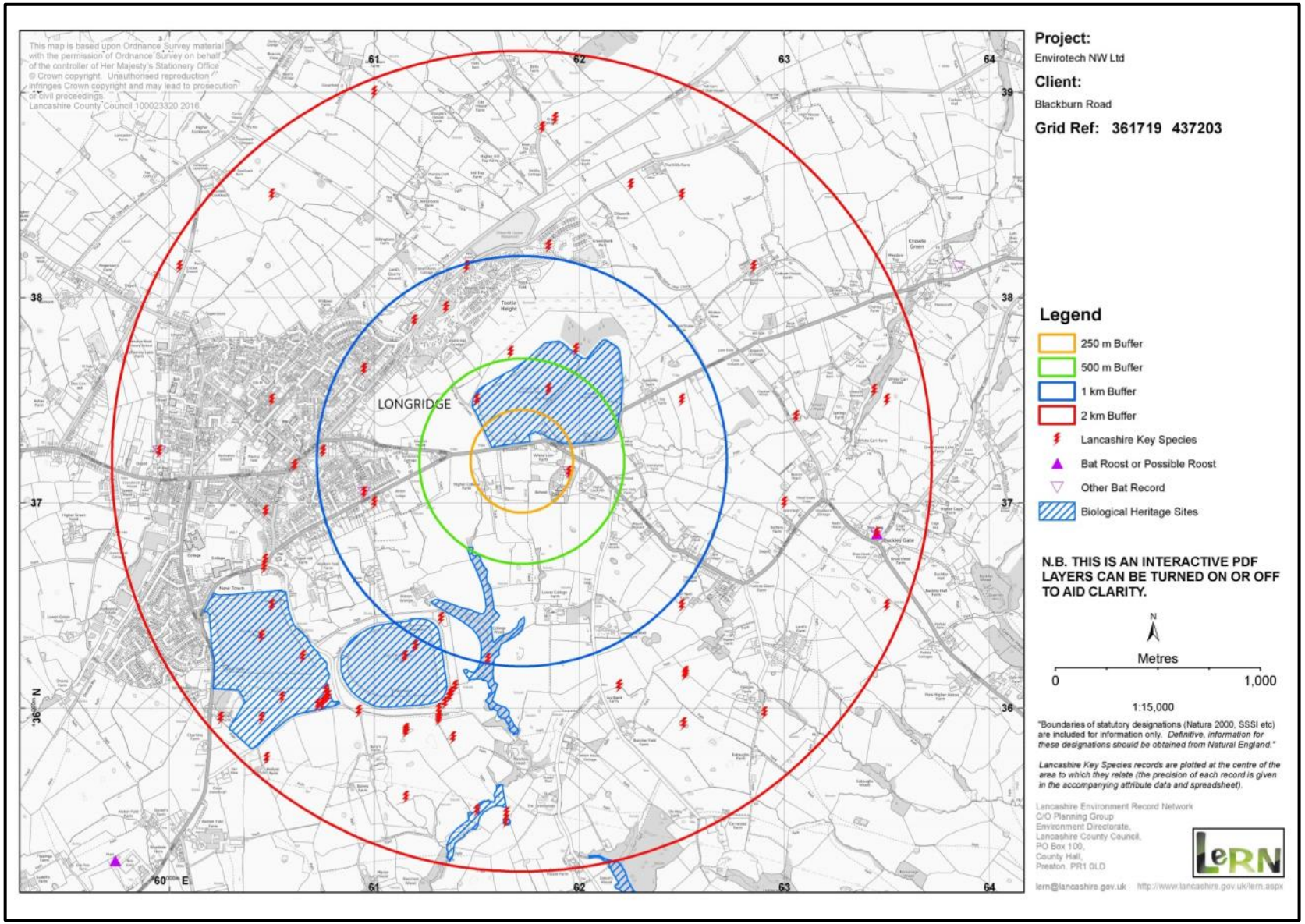



**Figure 3** *Non-statutory sites 2km buffer*.

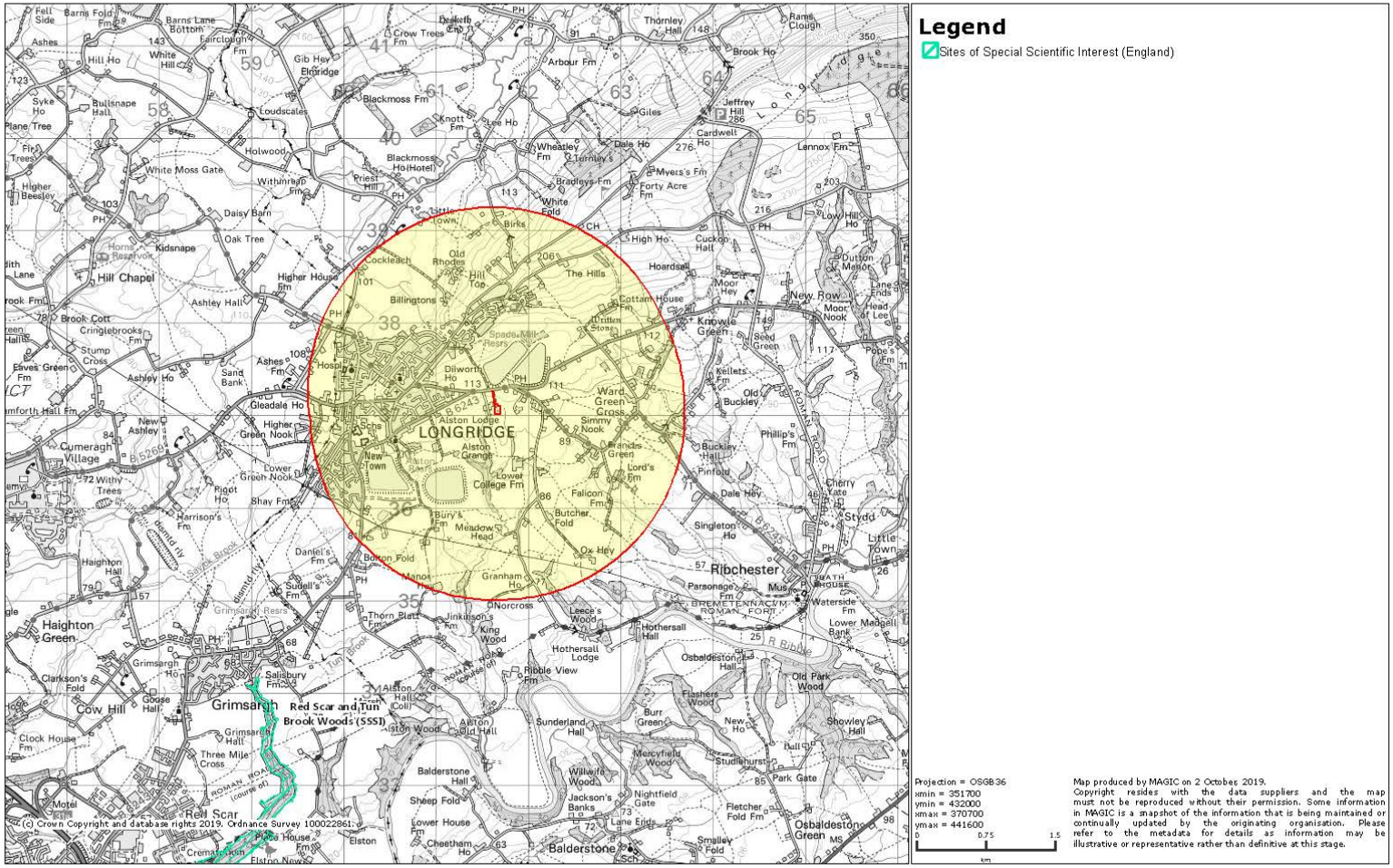



**Figure 4** *Statutory designated sites 2km buffer.*

# 6. PHASE 1 SURVEY RESULTS

## *6.1 Habitat Results*

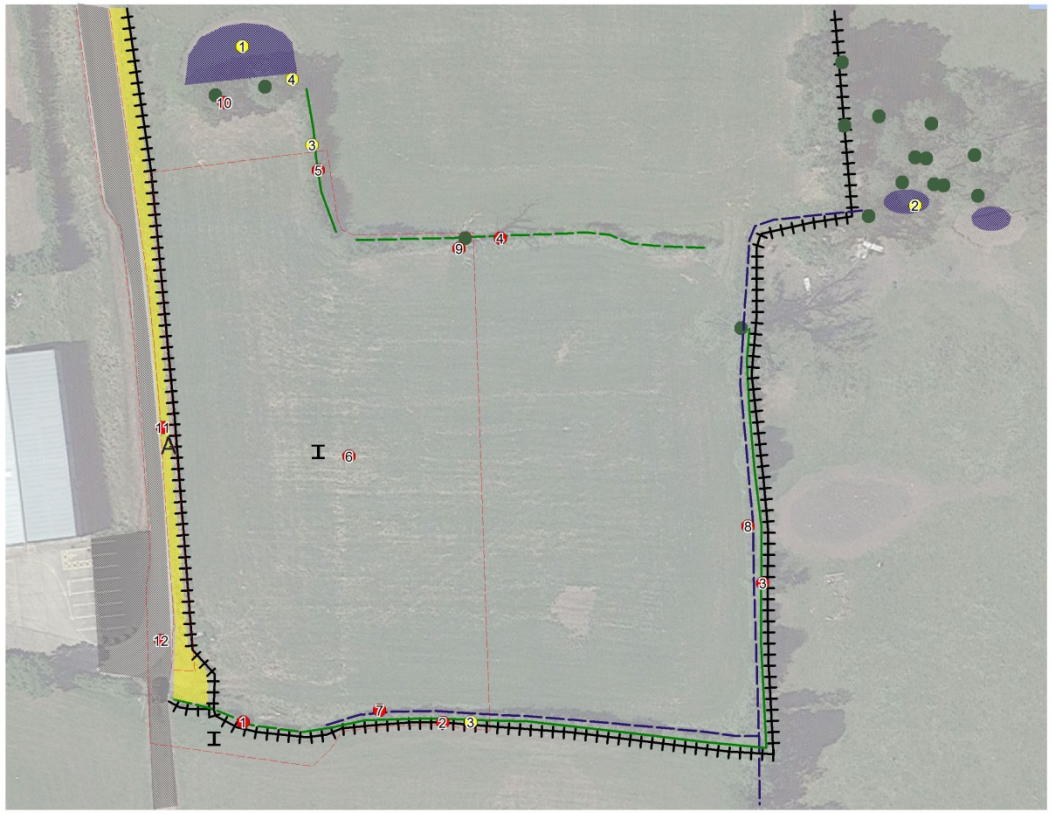
6.1.1 The site comprises improved grassland with fences and hedges on its boundary. There is agricultural land, largely comprising improved grassland, to the north, east and south. An access track and business units lie to the west.

6.1.2 See Figure 5 for the Phase 1 Habitat Plan and Table 1 for the descriptive Botanical and Faunal Target Notes, hereafter referred to as BTN and FTN.

| Target Note | Description | Comment |
|---|---|---|
| BTN1 | Defunct hedge – species poor | A short, gappy hedge of Hawthorn *(Crataegus monogyna)* with Bramble *(Rubus fruticosus agg)* and Nettle *(Urtica dioica)* at its base, near the entrance to the site. |
| BTN2 | Intact hedge – species poor | A Hawthorn hedge with Nettle at the base. |
| BTN3 | Intact hedge – species poor | A hedge outside the site boundary, comprising Hawthorn, Willow (*Salix* spp.) and Sycamore (*Acer pseudoplatanus)* with an Ash *(Fraxinus excelsior)* at the northern end. |
| BTN4 | Defunct hedge – species poor | A gappy Hawthorn hedge, with occasional Blackthorn (*Prunus spinosa*) and Elder (*Sambucus nigra*). There is a large, standing dead oak (BTN9). The hedge is not stock proof and has large gaps. There is no clear understory, but Nettles grow at the base. |
| BTN5 | Intact hedge – species poor | A very short but dense stretch of Hawthorn and Blackthorn hedge. |
| BTN6 | Improved grassland | A species poor grassland dominated by Perennial Ryegrass (*Lolium perenne*). Crested Dogs Tail (*Cynosurus cristatus*), Yorkshire Fog (*Holcus lanatus*) and Cocksfoot (*Dactylis glomerata*) grow around the periphery of the field.Nettle, Broad-leaved Dock (*Rumex obtusifolius*), Meadow Buttercup (*Rannunculus acris*) and White Clover (*Trifolium repens*) are present within the sward. The grass has been cut for silage throughout the summer and is currently grazed by cattle. |
| BTN7 | Drainage ditch | A drainage ditch running along the hedge at the south of the site does not currently contain running water but may at certain times of year. |
| BTN8 | Drainage ditch | A drainage ditch runs outside the boundary of the site along the eastern hedge. The running water in the ditch is shallow, appears to be ephemeral and has negligible potential for use by any protected species. Soft Rush (*Juncus effusus)* grows along the edge of the ditch. |
| BTN9 | Broadleaved parkland/scattered trees | A large, dead English Oak (*Quercus robur*) stands at the corner of the site. |
| BTN10 | Broadleaved parkland/scattered trees | Close to but outside the northern site boundary are an English Oak and an Ash tree. |
| BTN11 | Amenity grassland | The verge along the entrance lane comprises Perennial Ryegrass (*Lolium perenne*) Crested Dogs Tail (*Cynosurus cristatus*), Yorkshire Fog (*Holcus lanatus*) and Cocksfoot (*Dactylis glomerata*). Broad-leaved Dock and Nettle are also present, particularly close to the site entrance. |

| | | |
|---|---|---|
| BTN12 | Hard standing | At the west of the site runs a tarmac and gravel lane, from which the site is accessed. |
| FTN1 | Standing water | Pond close to but outside the northern site boundary, sheltered by Hawthorn hedge and mature Oak tree to the south. The pond has been subject to heavy poaching by cattle. |
| FTN2 | Standing water | Two shaded and ephemeral ponds occur amongst the mature trees to the east, outside the site boundary. Six mallard (*Anas platyrhynchos*) were present on these shallow ponds during the site survey. These water bodies were assessed for their potential to be used by amphibians. |
| FTN3 | Birds | Birds are likely to use the intact hedges, mature trees and dead tree at the site for nesting during March-September. Blue Tit (*Cyanistes caeruleus*) and Blackbird *(Turdus merula*) were noted on site during the survey. |
| FTN4 | Bats | Bats may forage along site boundaries but are highly unlikely to be dependent on the site. The core development are offers low potential for use by feeding bats. |

**Table 1** *Details of Botanical and Faunal Target Notes.*




**Key**

- Site Boundary
- Botanical Target Note
- Faunal Target Note
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Ditch
- A — Cultivated/disturbed land - amenity grassland
- I — Improved grassland
- Standing water
- Hardstanding
- Broadleaved Parkland/scattered trees
- Fence

envirotech

Figure 5
Results* of Extended
Phase 1 Habitat Survey

SCALE: NTS | REV 01

*Habitats outside the site boundary are indicative only
and have been mapped from within the site boundary or from publicly accessible land

| | |
|---|---|
|  | Defunct hedge (BTN1) close to site entrance with access lane in foreground (BTN12) |
|  | Intact hedge (BTN2) |
|  | Intact hedge (BTN3), outside site to the east, with drainage ditch containing shallow flowing water |

| | |
|---|---|
|  | Defunct hedge (BTN4), partially within the site boundary |
|  | Intact hedge (BTN5), partially within site boundary |
|  | View north across site showing improved grassland (BTN6) |

| | |
|---|---|
|  | View west across site with adjacent business units seen beyond |
|  | Drainage ditch (BTN7) at south of site |
|  | Dead Oak tree at corner of site boundary (BTN9) with denser section of Hedge BTN4 where it forms part of northern boundary of site |

| | |
|---|---|
|  | Oak and Ash trees (BTN10) to north of and outside site boundary |
|  | Access lane (BTN12) to west of site with verge of amenity grassland (BTN11) |
|  | Entrance to site showing hard standing and amenity grassland. |

| | |
|---|---|
|  | Pond (FTN1) close to but outside north of site is heavily poached by cattle |
|  | Ponds (FTN2) shaded by trees, outside of site to the east, which appear ephemeral and were frequented by mallards during the survey |
| **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 improved grassland has a very low species diversity and ecological value. It offers minimal opportunities for wildlife.

6.2.3 The intact hedges bounding the site to the north and south are species poor and contain a low diversity of woody plant species and understorey 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.

6.2.4 Defunct, species poor hedgerows also have a low ecological value. They have no understory and have been significantly impacted by livestock grazing. Should these need to be lost, transplanting them is unlikely to be of ecological benefit. New shrub/ scrub planting would be suitable compensation for their loss.

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

6.2.6 There are mature trees close to the site, but not within the boundary. A large dead tree stands on the north-east corner of the site boundary. All these trees offer opportunities or other species and vary the topography of the site.

6.2.7 There is no evidence of Japanese knotweed, giant hogweed or Himalayan balsam on the site. No other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) was identified within the site or adjacent land.

## *6.3 Amphibian*

6.3.1 There are three records for amphibians within 2km of the site including one for great crested newt.

6.3.2 There is no standing water on site. There is a field pond 15m to the north of the site and two ephemeral ponds 60m to the east. Three further ponds lie further to the south.

6.3.3 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 EPS Licensing process was used to determine the suitability of the ponds 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.

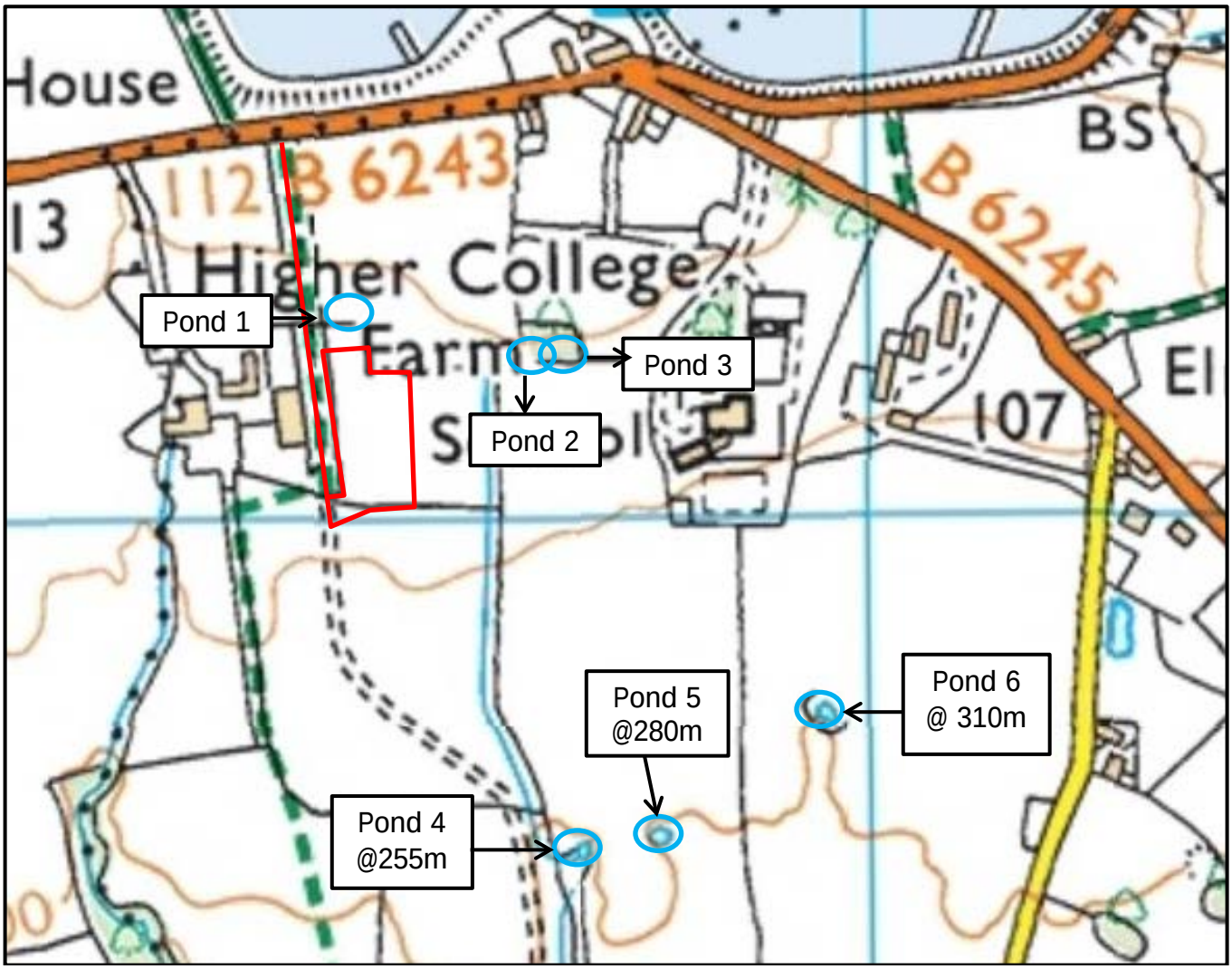



**Figure 6** *Ponds and their distances from the site. The site location is outlined red.*

| Index | Pond 1 | Pond 2 | Pond 3 | Pond 4 | Pond 5 | Pond 6 |
|---|---|---|---|---|---|---|
| **Location** | 1 | 1 | 1 | 1 | 1 | 1 |
| **Pond area** | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| **Pond drying** | 1 | 0.1 | 0.1 | 0.5 | 0.1 | 0.1 |
| **Water quality** | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| **Shade** | 1 | 0.2 | 0.2 | 0.2 | 1 | 0.2 |
| **Fowl** | 0.01 | 0.67 | 0.67 | 0.67 | 0.01 | 0.67 |
| **Fish** | 1 | 1 | 1 | 1 | 1 | 1 |
| **Ponds** | 1 | 1 | 1 | 1 | 1 | 1 |
| **Terrestrial habitat** | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 |
| **Macrophytes** | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 |
| **HSI** | **0.27** | **0.28** | **0.28** | **0.33** | **0.22** | **0.29** |

**Table 3** *Habitat Suitability Index of the ponds on and adjacent to the site.*

6.3.1 Within the Natural England Method Statement application form for great crested newt Licences, guidance states the following approach (Natural England, 2008):

*'If a pond has a very low HSI score (say <0.5) then there would typically be a minimal chance of great crested newt presence. Hence, with due care and in limited circumstances, the HSI might be used in the absence of newt survey to help conclude that an offence is highly unlikely and therefore work could proceed in that area without a licence. This application of the HSI should only be used where the predicted impacts - were newts to be present - would be low (eg, development at least 100m from pond, permanent habitat loss <0.5ha or temporary habitat loss <5ha). The developer and consultant should realise that there would still be a risk of committing an offence, but it would typically be so low as to be negligible. Obviously, note that if HSI >0.5, this is not confirmation of newt presence; a newt survey would be required to confirm this'.*

6.3.2 All of the ponds scored low HSI scores. Their geographical location, the presence of waterfowl, lack of significant foraging opportunities and low water quality all contributed to this. Scores of 0.5 or less are considered to be 'poor' for great crested newts.

6.3.3 The majority of the site has negligible value to any amphibian species using these ponds for breeding. Improved grassland habitats offer negligible foraging opportunities to these species. The commuting and refuge opportunities offered by these habitats is also negligible.

6.3.4 Structural diversity at ground level across the site is very poor. There are no areas with log, rubble piles or compost heaps which would be particularly favourable to amphibians.

6.3.5 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.

6.3.6 The great crested newt record within 2km of the site is more than 1km south-west of the site. 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.

6.3.7 It is not considered that the improved grassland habitats that make up the core of the development site are of significance to great crested newts or any other amphibian species.

## *6.4 Badger*

6.4.1 There are no 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 There were no indications of badger activity found on site, such as feeding activity, latrines or runs.

6.4.4 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 several records of at least two species of bat within 2km of the site.

6.5.2 The foraging habitat of the majority of the site for bats is poor quality. The grassland is likely to offer negligible foraging opportunities for the majority of the year. Bats may forage along the hedgerows at the site and over the ponds nearby (Figure 7).

6.5.3 There are high quality foraging habitats in close proximity to the site, although these are poorly connected with the site. The site does not lie on a high quality commuting route.

6.5.4 There are no buildings on site for which bats could utilise for roosting or hibernating; these opportunities are therefore limited to the trees. All trees on site were 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 8). 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.

6.5.5 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.

6.5.6 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 unlikely to occur on the site.

6.5.7 Precautionary mitigation would be appropriate in respect of ensuring the foraging habitat on site is at least improved for use by bats during development.

**Key**

- Site Boundary
- High Quality
- Moderate Quality
- Low Quality

N

envirotech

Figure 7
Results* of Extended
Bat Habitat Survey

SCALE: NTS | REV 01

*Habitats outside the site boundary are indicative only
and have been mapped from within the site boundary or from publicly accessible land

| 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.<br><br>***A consultant ecologist is required*** | Avoid disturbance to trees, where possible.<br><br>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.<br><br>***A consultant ecologist required*** | Avoid disturbance to trees, where possible.<br>More detailed, off the ground visual assessment.<br><br>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.<br><br>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.<br><br>***A consultant ecologist is unlikely to be required*** | Avoid disturbance to trees, where possible.<br>No further surveys. | Trees may be felled taking reasonable avoidance measures.<br><br>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.<br>***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 several records of birds within 2km of the site. Blackbird and Blue Tit were noted on site during the survey. Mallard were noted on an adjacent pond.

6.7.2 The intact hedgerows offer potential habitat for feeding and nesting birds. The improved grassland has a low potential for use by nesting birds as the grassland is either grazed or intensively harvested for silage. Trampling risks are also very high within this area of the site.

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

6.7.4 The dead tree at the corner of the site may have holes that would support tree hole nesting species such as woodpeckers. This should be unaffected by the proposal.

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 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 Brown Hare*

6.8.1 Brown hare are a UK BAP priority species. There are no records of brown hares within 2km of the site.

6.8.2 No indication of brown hares was recorded on the site.

6.8.3 The site has some potential for brown hares to feed but this is likely to be limited due to the regular human presence on and around the site. Similar habitat is well represented in the local area.

6.8.4 A risk assessment of the site in respect of its future potential for and value to brown hares could be adequately made. We consider the risk to brown hares is very low.

## *6.9 Invertebrates*

6.9.1 Several invertebrates have been recorded within 2km of the site.

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

6.9.3 The dead tree provided opportunities for some invertebrates and should remain unaffected by the proposal.

6.9.4 The plant species assemblages found on site are not notable for their invertebrate interest.

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

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

## *6.10 Otter*

6.10.1 There are no records of otters within 2km of the site.

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

6.10.3 The drainage ditch is considered unlikely to support fish. There are no waterbodies in proximity to the site which would be attractive to amphibians. There is poor connectivity between the site and good otter foraging habitats.

6.10.4 This species is considered as being absent from the site.

## *6.11 Reptiles*

6.11.1 There are no records for reptiles within 2km of the site.

6.11.2 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 which would be particularly favourable to reptiles.

6.11.3 No indication of reptiles was recorded at the site.

6.11.4 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.

## *6.12 Water vole*

6.12.1 There are records of water voles within 2km of the site.

6.12.2 The drainage ditches appear to have ephemeral water flow and poor vegetative diversity along the banks.

6.12.3 No signs of water voles, such as droppings, feeding piles or footprints were present. We consider this species to be absent from the site. Precautionary mitigation would be appropriate.

## *6.13 Other*

6.13.1 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.

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

6.13.3 The boundary hedgerows may provide suitable habitat for small mammals such as field vole (*Microtus agrestis*) but these areas are small and the sites value to small mammals is limited.

6.13.4 The ponds and drainage ditch on and adjacent to site were not suitable for use by mammals adapted to an aquatic lifestyle, such as water vole (*Arvicola amphibious*) or otter (*Lutra lutra*). There was no evidence to suggest these species had been present on site.

## *6.14 Statutory and Non-Statutory Sites*

Direct Impacts:

6.14.1 There are no statutory or non-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.

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

Indirect Impacts:

6.14.3 There are no statutory or non-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. Young or Semi-mature or Mature or Veteran or 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 hedges are removed, transplantation of them is not considered to be of significant ecological benefit as there are no notable species assemblages associated with them, replanting of linear lines of trees/ shrubs would be more beneficial.

## *7.2 Amphibians*

7.2.1 There is no requirement for specific mitigation for these species. There are currently no suitable breeding sites on or near the site. However, as a precautionary measure, in the unlikely event that any signs of any amphibian 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.

7.2.2 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 known to occur within 2km of the site. These setts 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 minimised.

7.4.2 Hedges and trees on and around the site should as far as possible be retained.

7.4.3 New roosting provision for crevice dwelling bats could be incorporated into the buildings 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 unlikely to occur. Birds may nest within hedges on the periphery of the site.

7.5.2 Any vegetation to be trimmed or cleared 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 and swift 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 Brown Hares*

7.6.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any brown hare 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.

7.6.2 The points in respect of not working at night and leaving open trenches with means of escape detailed for badgers are also applicable to this species.

## *7.7 Invertebrates*

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

7.7.2 Contaminants should not be allowed to enter soils or water 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.

## *7.8 Otter*

7.8.1 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.

7.8.2 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.

## *7.9 Reptiles*

7.9.1 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.

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

## *7.10 Water vole*

7.10.1 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.

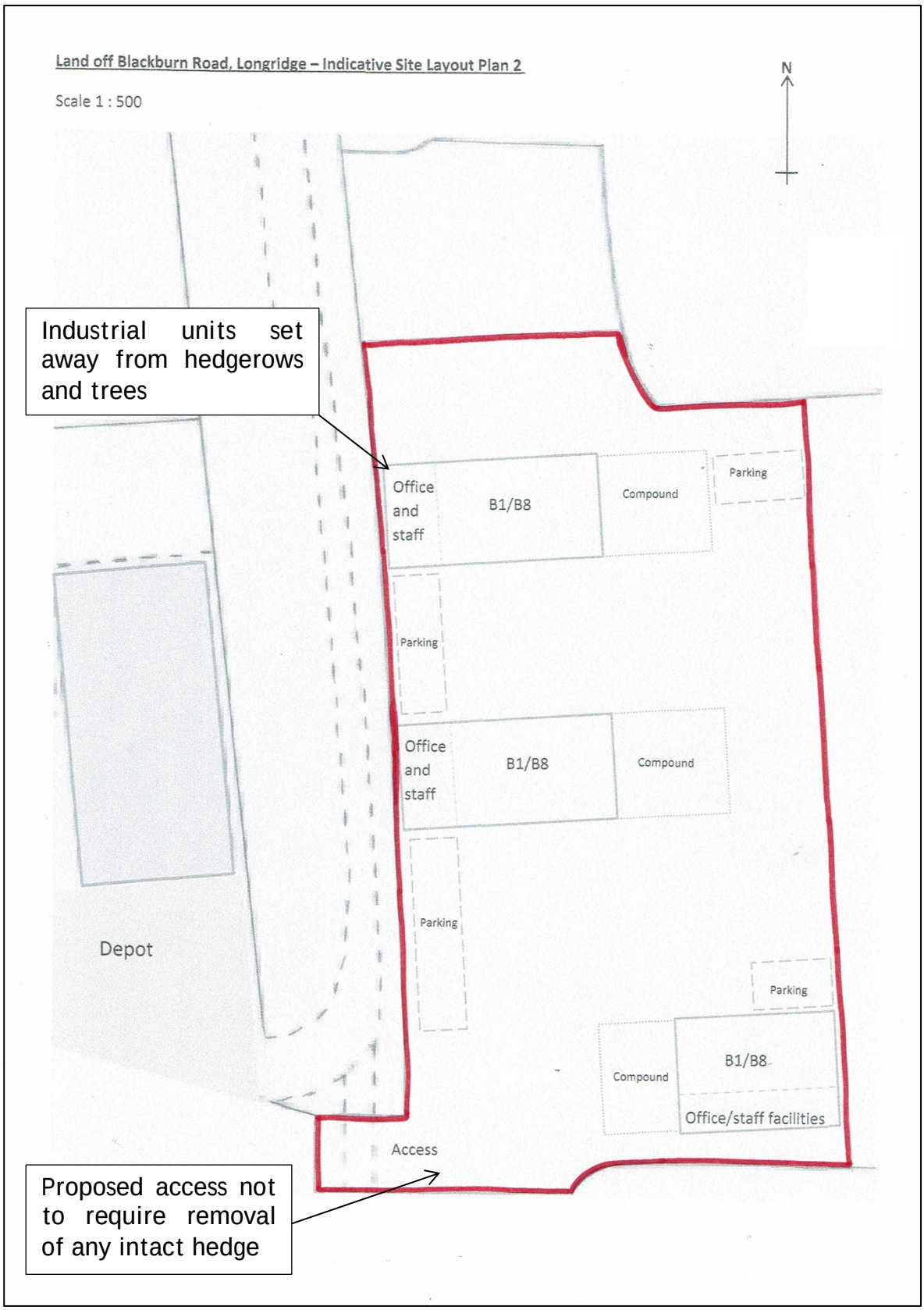



**Figure 9** *Proposed site plan*

# 8. CONCLUSION

8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land south of Lower Road, Longridge. It is proposed new business units will be constructed on the site.

8.1.2 Bats, nesting birds and amphibians 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


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

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

| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BTN1** | No | Yes | Yes | Yes | | No* | No* | No* | No* | No | | No | No | No | No | No | No | 1 | 1 | 0 | **No** |
| **BTN2** | Yes | Yes | Yes | Yes | | No* | No* | No* | No* | No | | No | Yes | No | Yes | No | No | 2 | 1 | 0 | **No** |
| **BTN3** | Yes | Yes | Yes | Yes | | No* | No* | No* | No* | No | | No | Yes | Yes | Yes | No | No | 2 | 4 | 0 | **No** |
| **BTN4** | Yes | Yes | Yes | Yes | | No* | No* | No* | No* | No | | No | No | Yes | No | No | No | 2 | 3 | 0 | **No** |
| **BTN5** | Yes | Yes | Yes | Yes | | No* | No* | No* | No* | No | | No | Yes | No | No | No | No | 1 | 2 | 0 | **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.