



envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Preliminary Ecological Appraisal

Land South of Lower Road, Longridge



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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.

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Author	Sian Comlay	Date	10/06/2020
Updated Author	Sian Comlay	Date	15/06/2020
Checked by	Andrew Gardner	Date	16/6/2020
Report Version	2		
Field data entered	<input type="checkbox"/>		
Report Reference	5996b		

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1. EXECUTIVE SUMMARY

- 1.1.1 Envirotech NW Ltd were commissioned in May 2020 by the landowner to carry out a Preliminary ecological appraisal of land south of Lower Road in Longridge. It is proposed that new business units are constructed on the site, however the exact plans are currently unknown.
- 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 3rd June 2020. 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 on site and 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 development. It is proposed that some roosting provision for bats will however be incorporated into the proposed development through installation of bat boxes in trees on the peripheries of the site.
- 1.1.8 Birds are likely to utilise hedgerows and trees 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 In May 2020 Envirotech NW Ltd were commissioned by the landowner to carry out a Preliminary Ecological Appraisal of land south of Lower Road (a.k.a Balckburn Road), Longridge, central grid reference SD 61702 37181 (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 submission of an outline planning application for possible business premises on the site.



Figure 1 Site location at SD 61702 37181 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 spring.
- 3.3.2 The site and surrounding land was visited on the 3rd June 2020 by
 - (SC) Ms Sian Comlay BSc (Hons), Grad CIEEM
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.

4.2 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 carcasses

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 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'. All birds displaying breeding behaviour were recorded.

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. Generally, surveys were undertaken throughout the early afternoon and evening when hares are thought to be most active and feeding.

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 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.

4.7.2 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 south eastern 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. The survey was undertaken during the active bat season (April-September, inclusive).
- 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 located approximately 65m to the north of the land proposed for the business units, , 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), located approximately 3.9km to the south-west (Figure 4).
- 5.1.4 There are no SSSI within 2km of the survey area, however, the site does fall within the SSSI Impact Risk Zone for Red Scat and Tun Brook Woods. The outline planning application for business units are not considered to fall within any of the SSSI Impact Risk Zone categories for infrastructure of aviation structures, air pollution from livestock or poultry units, combustion process of >50MW energy input or discharge of water or liquid waste of more than 20m³/day to ground or to surface water.

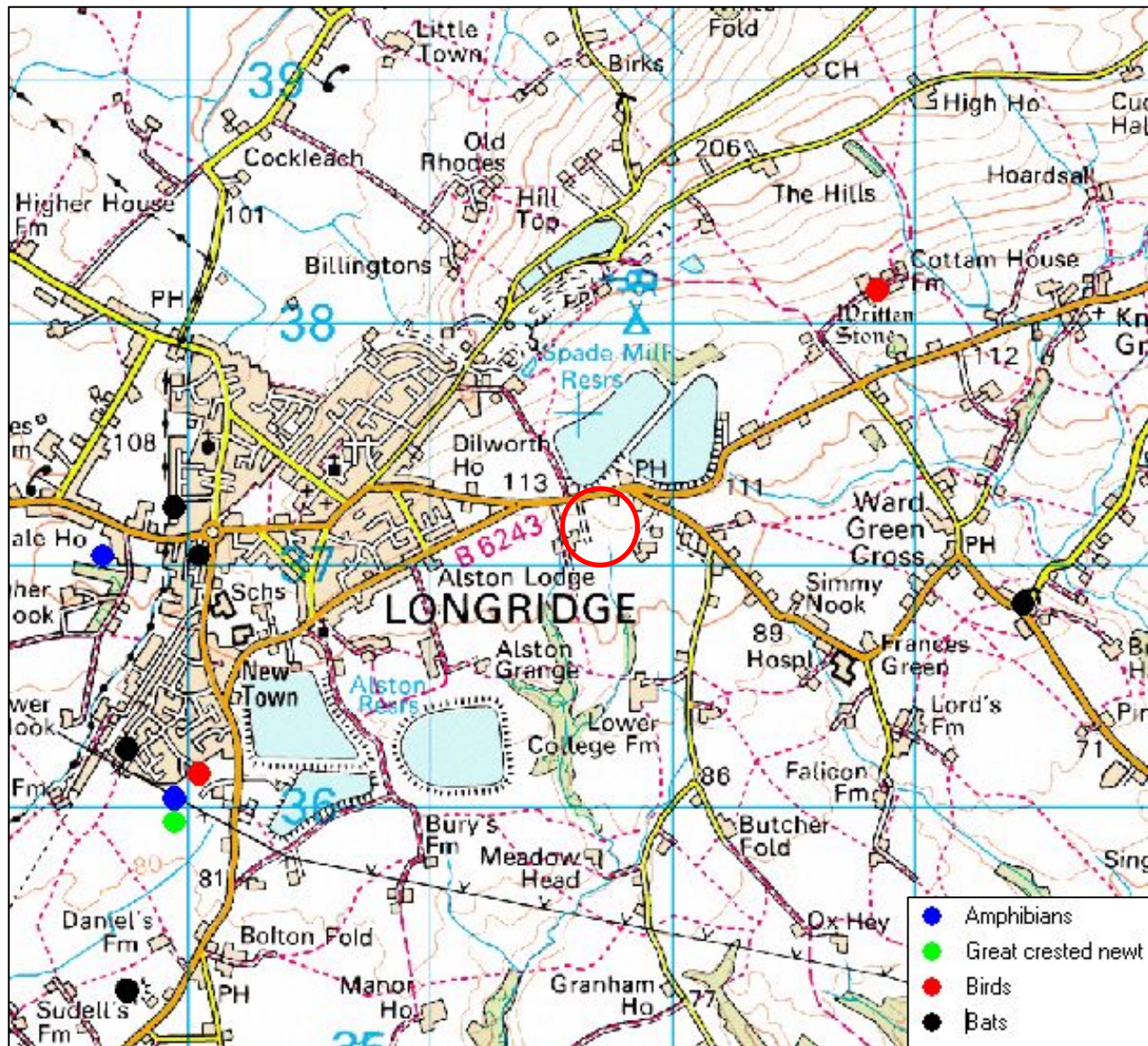


Figure 2 Notable species records, site location is circled red.

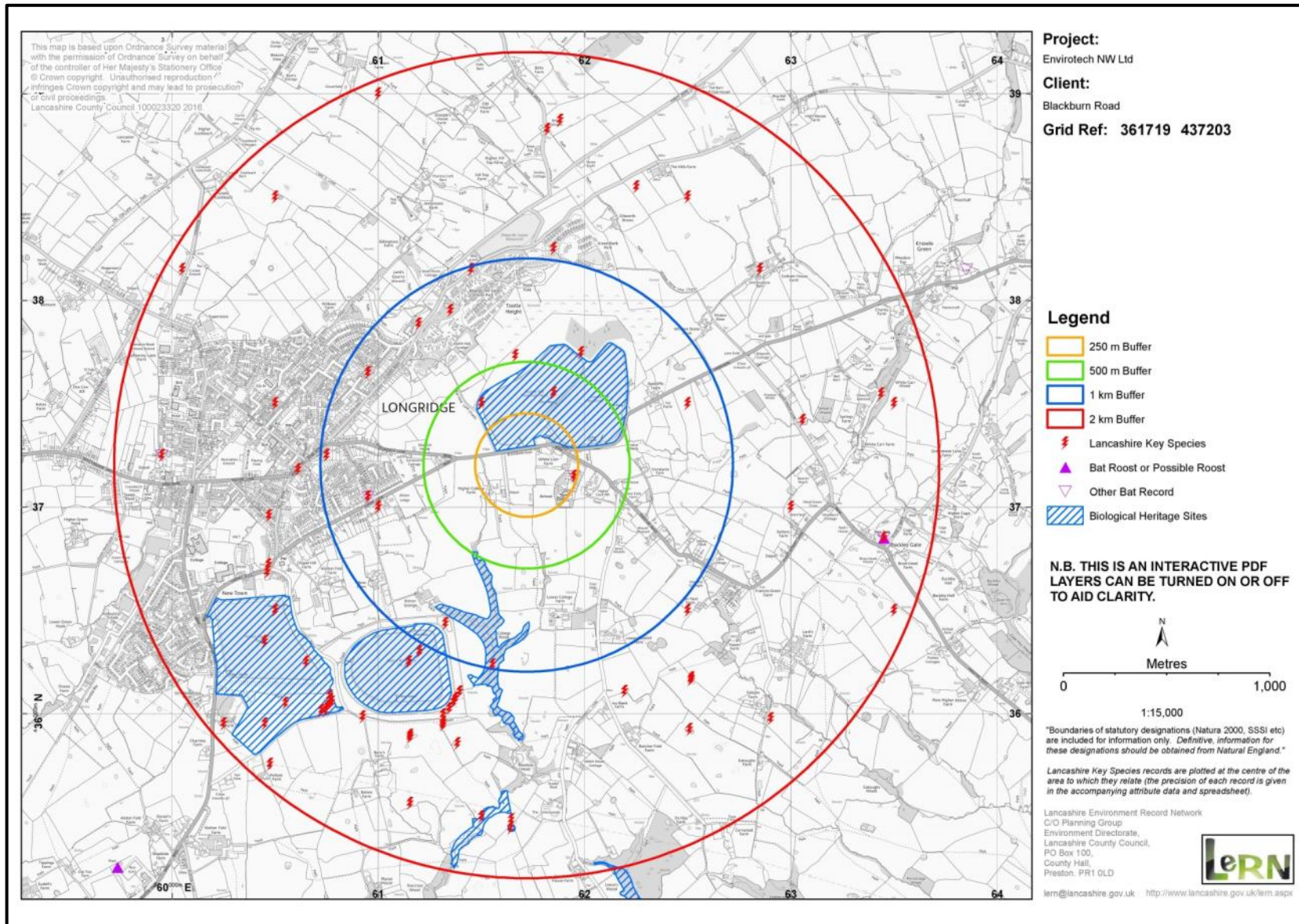


Figure 3 Non-statutory sites 2km buffer.

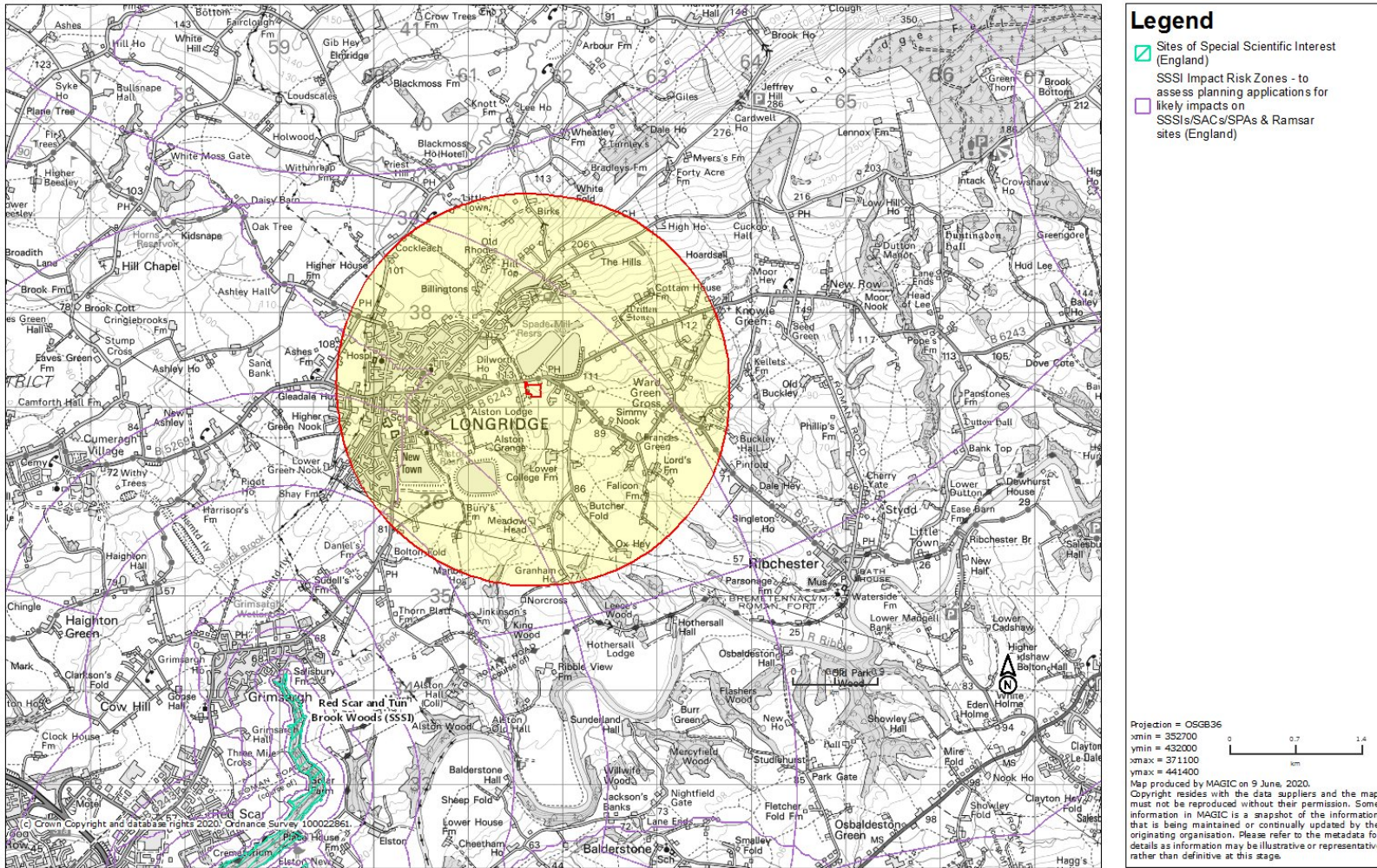


Figure 4 Statutory designated sites 2km buffer.

6. PHASE 1 SURVEY RESULTS

6.1 *Habitat Results*

- 6.1.1 The site comprises improved grassland with fences and hedgerows on its boundaries. There is agricultural land, largely comprising improved grassland, to the 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 hedgerow species poor	- A gappy Hawthorn (<i>Crataegus monogyna</i>) hedge, with occasional Blackthorn (<i>Prunus spinosa</i>) and Elder (<i>Sambucus nigra</i>). 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 (<i>Urtica dioica</i>) grow at the base.
BTN2	Intact hedgerow species poor	- A very short but dense stretch of Hawthorn and Blackthorn hedge.
BTN3	Defunct hedgerow species poor	- A short section of Hawthorn and Blackthorn hedgerow adjacent to the fence line along the eastern boundary. The hedge is not stock proof and has large gaps. There is no clear understory.
BTN4	Intact hedgerow species poor	- A section of Leylandii (<i>Leylandii x Cupressocyparis leylandii</i>) hedgerow runs along the western section of the access road.
BTN5	Intact hedgerow species poor	- A Hawthorn and Blackthorn hedgerow runs adjacent to the Leylandii hedgerow. Maple (<i>Acer</i> sp.) was also present within this hedgerow. There is no clear understory but Nettle, Ivy (<i>Hedera helix</i>) and Wood Avens (<i>Geum urbanum</i>) grow at the base.
BTN6	Improved grassland	A species poor grassland dominated by Perennial Ryegrass (<i>Lolium perenne</i>). Crested Dogs Tail (<i>Cynosurus cristatus</i>), Yorkshire Fog (<i>Holcus lanatus</i>) and Cocksfoot (<i>Dactylis glomerata</i>) grow around the periphery of the field. Nettle, Broad-leaved Dock (<i>Rumex obtusifolius</i>), Meadow Buttercup (<i>Ranunculus acris</i>) and White Clover (<i>Trifolium repens</i>) are present within the sward. The grass has been recently cut for silage and is usually multi-cropped then grazed late in the season by cattle and then by sheep in the winter.
BTN7	Drainage ditch	A drainage ditch runs along a small section of the site boundary to the south east and then goes south away from the site boundary. The ditch does not currently hold water, but may at certain times of the year. The ditch has negligible potential for use by any protected species. Soft Rush (<i>Juncus effusus</i>) grows within the ditch, along with Willowherb (<i>Epilobium</i> sp.) and Bramble (<i>Rubus fruticosus</i> agg.) growing over the ditch.
BTN8	Broadleaved parkland/scattered trees	Scattered trees overhanging the eastern boundary. Species recorded include Sycamore (<i>Acer pseudoplatanus</i>), Ash (<i>Fraxinus excelsior</i>), Holly (<i>Ilex aquifolium</i>) and oak (<i>Quercus</i> sp.). A single Oak tree and Hawthorn are present on the site.

BTN9	Broadleaved parkland/scattered trees	A large, dead English Oak (<i>Quercus robur</i>) stands along the southern boundary of the site.
BTN10	Broadleaved parkland/scattered trees	Along the south western site boundary are an English Oak and an Ash tree.
BTN11	Amenity grassland	The verge along the entrance lane comprises Perennial Ryegrass (<i>Lolium perenne</i>) Crested Dogs Tail (<i>Cynosurus cristatus</i>), Yorkshire Fog (<i>Holcus lanatus</i>) and Cocksfoot (<i>Dactylis glomerata</i>). Broad-leaved Dock, Creeping Thistle (<i>Cirsium arvense</i>), Cow Parsley (<i>Anthriscus sylvestris</i>) and Nettle are also present.
BTN12	Hard standing	At the west of the site runs a tarmac and gravel lane, from which the site is accessed.
FTN1	Standing water	A livestock drinking pond was present in the south western corner of the site. This pond is considered to be ephemeral as it was found to be dry during the time of the survey. The pond is sheltered by a 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. These ponds were found to be dry during the time of the 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 (<i>Cyanistes caeruleus</i>) and Blackbird (<i>Turdus merula</i>) 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.





View across the site showing the improved grassland.



Dry ditch in the south eastern corner of the site



Dead Oak tree and defunct hedgerow along the southern boundary



Dry livestock drinking pond in the south west of the site sheltered by a mature oak tree and hawthorn hedgerow



Access road and amenity grassland verges

Leylandii hedgerow along the western boundary of the access road



Ponds outside of the site to the east



Scattered trees and hedgerow along the eastern boundary 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 improved grassland has a very low species diversity and ecological value. It offers minimal opportunities for wildlife.
- 6.2.3 The intact hedgerows in the south and west of the site 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 on the site 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 within and adjacent to the site boundaries. A large dead tree stands on the southern boundary of the site. All these trees offer opportunities for 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 A search of OS mapping data identified four waterbodies within 250m of the site. The livestock drinking pond on site was dry at the time of the survey which would make this feature suboptimal for amphibians. Two ephemeral ponds are also present approximately 10m and 15m to the east of the site within the adjacent field.
- 6.3.3 The reservoir was discounted as supporting great crested newts.
- 6.3.4 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.



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

Index	Pond 1	Pond 2	Pond 3
Location	1	1	1
Pond area	0.2	0.2	0.2
Pond drying	0.5	0.1	0.1
Water quality	0.01	0.01	0.01
Shade	1	0.2	0.2
Fowl	0.01	0.67	0.67
Fish	1	1	1
Ponds	1	1	1
Terrestrial habitat	0.33	0.33	0.33
Macrophytes	0.33	0.33	0.33
HSI	0.25	0.28	0.28

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

- 6.3.5 Within the Natural England Method Statement application form for great crested newt Licences, guidance states the following approach (Natural England, 2008):
- 6.3.6 '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'.
- 6.3.7 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.
- 6.3.1 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.
- 6.3.2 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.
- 6.3.3 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.

- 6.3.4 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.
- 6.3.5 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 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. 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. The standing dead tree has potential to support roosting bats as is classified as category 1 (moderate), if this tree is to be removed for health and safety reasons or to be impacted by the works then a further survey must be undertaken. If the dead tree is to be lost to the proposed development then as mitigation/compensation bat boxes will be installed on the retained trees along the peripheries of the site.
- 6.5.5 All of the remaining live trees on site were assessed in accordance with Collins ed. (2016) and assigned a risk category. All of these trees 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.

- 6.5.6 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.
- 6.5.7 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.
- 6.5.8 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 Habitat
- Medium Quality Habitat
- Low Quality Habitat



Figure 7
Results* of 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. <i>A consultant ecologist is required</i>	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' 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. <i>A consultant ecologist required</i>	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. <i>A consultant ecologist is unlikely to be required</i>	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. <i>A consultant ecologist is not required unless new evidence is found</i>	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.
- 6.7.2 The intact hedgerows offer potential habitat for feeding and nesting birds. The poor improved grassland has a low potential for use by nesting birds as the grassland is 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 on the southern boundary of the site may have features suitable for use by 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, due to it being dry during the time of the survey. 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*) 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. 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.
- 7.1.5 Works should be kept at least 5m from the hedgerows where possible.
- 7.1.6 A 10m buffer around the pond should be maintained.

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 New roosting provision for crevice dwelling bats should be incorporated into the proposed development through installation of bat boxes within the trees on the peripheries of the site..

7.4.3 Any category 1 or 2 trees to be felled should be re-inspected for bats to confirm they remain absent.

7.4.4 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 hedgerows and trees 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 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 If the dead tree is removed for health and safety reasons the wood should be piled up and retained on site as this will provide suitable habitat for use by invertebrates.

7.7.3 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.

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 that an outline planning consent for business units will be applied for..
- 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 living trees are to be retained close to but outside the development area and 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 The water bodies on site should also be protected from contamination.
- 8.1.6 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

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10. APPENDIX

Feature		Hedge				ARCHAEOLOGY AND HISTORY					FEATURES									
		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	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	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	Yes	Yes	Yes	Yes	Yes	No*	No*	No*	No*	No	No	No	Yes	No	No	No	2	3	0	No
BTN2	Yes	Yes	Yes	Yes	Yes	No*	No*	No*	No*	No	No	Yes	No	No	No	No	1	2	0	No
BTN3	Yes	Yes	Yes	Yes	Yes	No*	No*	No*	No*	No	No	Yes	No	No	No	No	2	2	0	No
BTN4	Yes	Yes	No	Yes	Yes	No*	No*	No*	No*	No	No	Yes	No	No	Yes	1	0	0	No	
BTN5	Yes	Yes	Yes	Yes	Yes	No*	No*	No*	No*	No	No	Yes	No	No	No	2	2	1	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.