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Ecological Consultants
Environmental and Rural Chartered Surveyors

Preliminary Ecological Appraisal

LAND AT HIGHER COLLEGE FARM, LONGRIDGE

Green at Heart BEN GOLD

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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.

Quality and Environmental Assurance

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1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned in August 2021 to carry out an updated Preliminary Ecological Appraisal of land at Higher College Farm, off Blackburn Road, Longridge, Lancashire. It is proposed that new commercial units are constructed on the site, however, the quantity of units and 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 visited by ecologists from Envirotech NW Ltd on the 12th June 2017, 20th September 2018 and 27th September 2021. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of notable species at the site or in proximity such that they may be affected by the proposed development.

1.1.4 It is considered, based on the current understanding of the site proposals, that SSSI Impact Risk Zones will not be a notable constraint, however, this will be confirmed once exact plans are known.

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

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

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

1.1.8 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.

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

2. INTRODUCTION

2.1 Background

2.1.1 In August 2021 Envirotech NW Ltd were commissioned to carry out an updated Preliminary Ecological Appraisal of land at Higher College Farm, off Blackburn Road, Longridge, Lancashire, central grid reference SD 61565 37183 (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 Envirotech NW Ltd have previously undertaken surveys at the site in 2017 and 2018. The site has not significantly changed since the previous surveys.

2.1.3 The survey was requested in connection with the proposed construction of new commercial units on the site, however, the quantity of units and exact plans are currently unknown.

Figure 1 *OS map with site location 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 (2019).

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

3.3 Timing and Personnel

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

3.3.2 The site and surrounding land was visited on the 12th June 2017 by

- (CA) Mr Chris Arthur BSc (Hons), MSc
  Natural England Bat Class Licence (Level 2)
  Natural England Barn Owl Licence
  Natural England Great Crested Newt Licence (Level 1)

3.3.3 The site and surrounding land was visited on the 20th September 2018 by

- (JS) Mr Jack Sykes BSc (Hons), MCIEEM
  Natural England Bat Class Licence (Level 2)
  Natural England Great Crested Newt Licence (Level 1)

3.3.4 The site and surrounding land was visited on the 27th September 2021 by

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

4. SPECIES SURVEY METHODOLOGY

4.1 Amphibian

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

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

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

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

4.2 Badger

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

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

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

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

4.2.5 Signs of badgers which were searched for included:

- Setts - 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
- Discarded bedding at sett entrances (this includes grass and leaves)
- Scratching posts on shrubs and trees close to a sett entrance
- The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip

- Dung pit latrines and footprints
- Habitual runs through vegetation and beneath fences
- Hedgehog carcases

4.3 Bats

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

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

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

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

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

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

4.4 Birds

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

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

4.5 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 Reptiles

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

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

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

4.8 Survey limitations

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

4.8.2 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.

4.8.3 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 There are several non-statutory designated sites within 2km, the nearest being Spade Mill Reservoirs Biological Heritage Site, adjacent to the North (Figure 3). This 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.3900m to the South-west (Figure 4).

5.1.4 The survey area falls within the SSSI Impact Risk Zone for multiple SSSIs, the closest being Red Scar and Tun Brook Woods SSSI. Although the exact plans for the site are currently unknown, it is understood that the development will not be for aviation purposes, will not comprise a livestock or poultry unit, will not have a general combustion processes of >50MW energy input and will not discharge any water or liquid waste of more than 20m³/day to ground or to surface water. Therefore at this stage it is considered that the proposed development does not fall within ay of the Risk Zone Categories and SSSI Impact Risk Zones are not considered to be a notable constraint. However, this will be confirmed once the final plans are known.

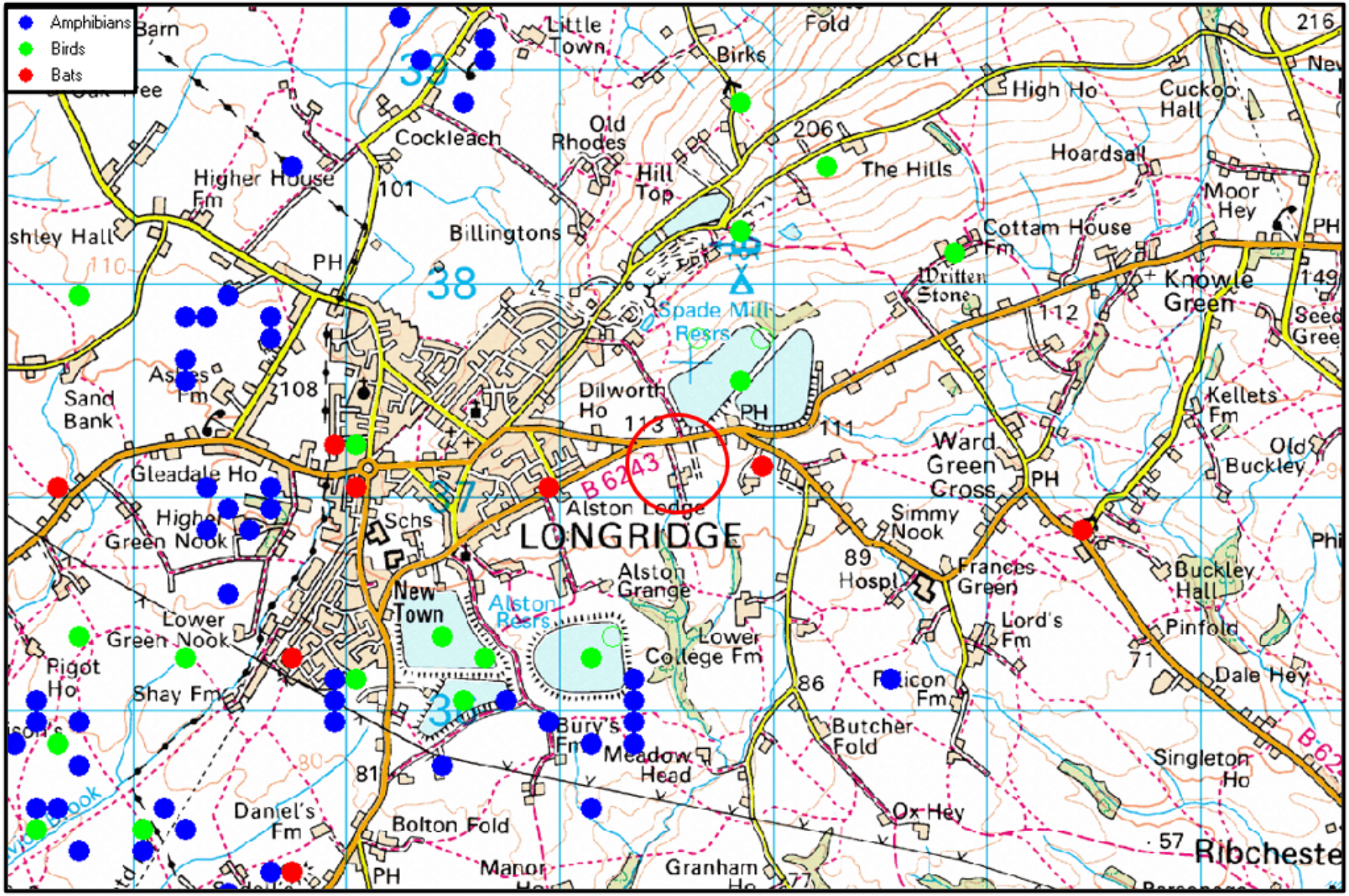

Figure 2 *Notable species records, site location is circled red.*

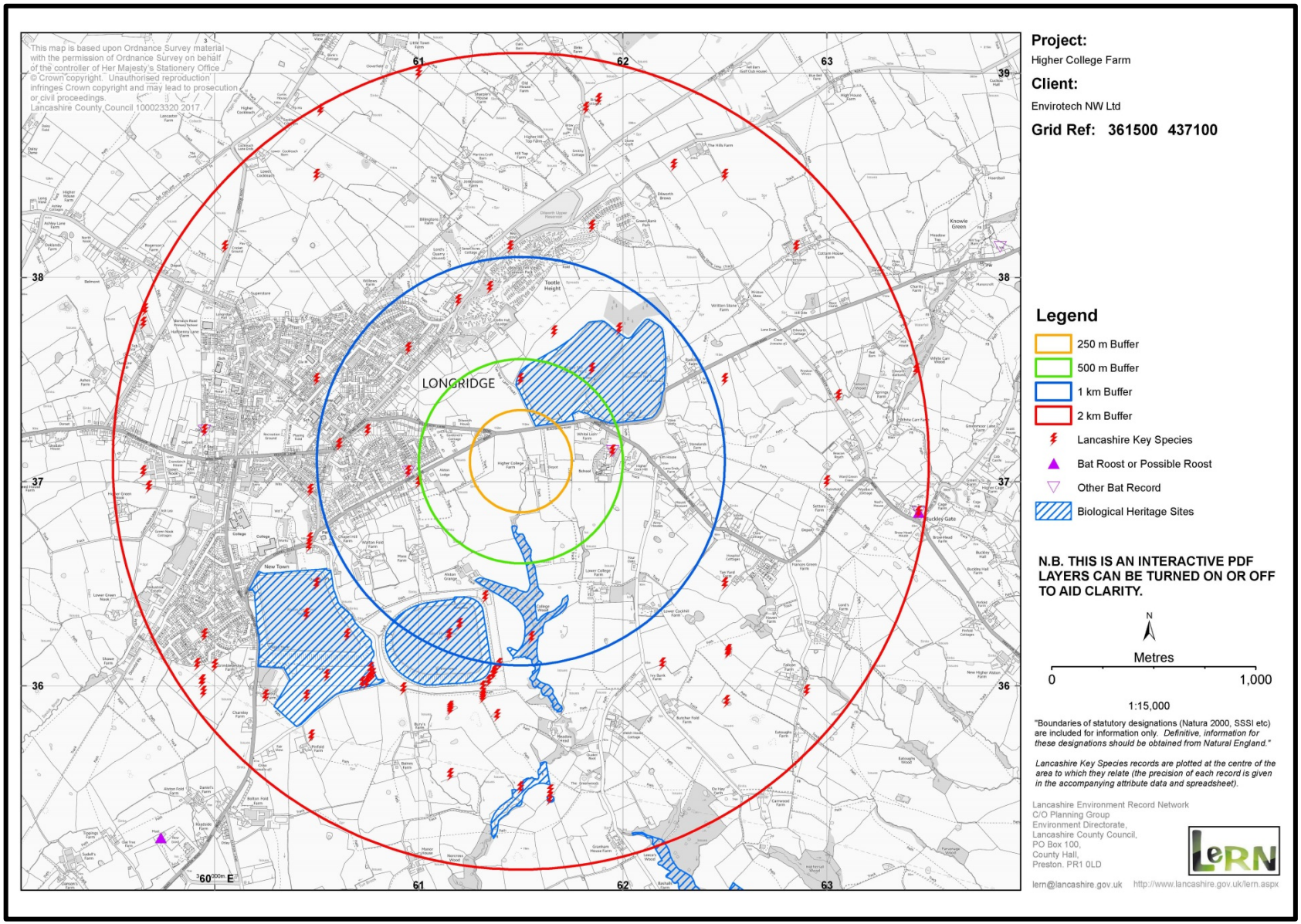

Figure 3 *Non-statutory sites 2km buffer*.

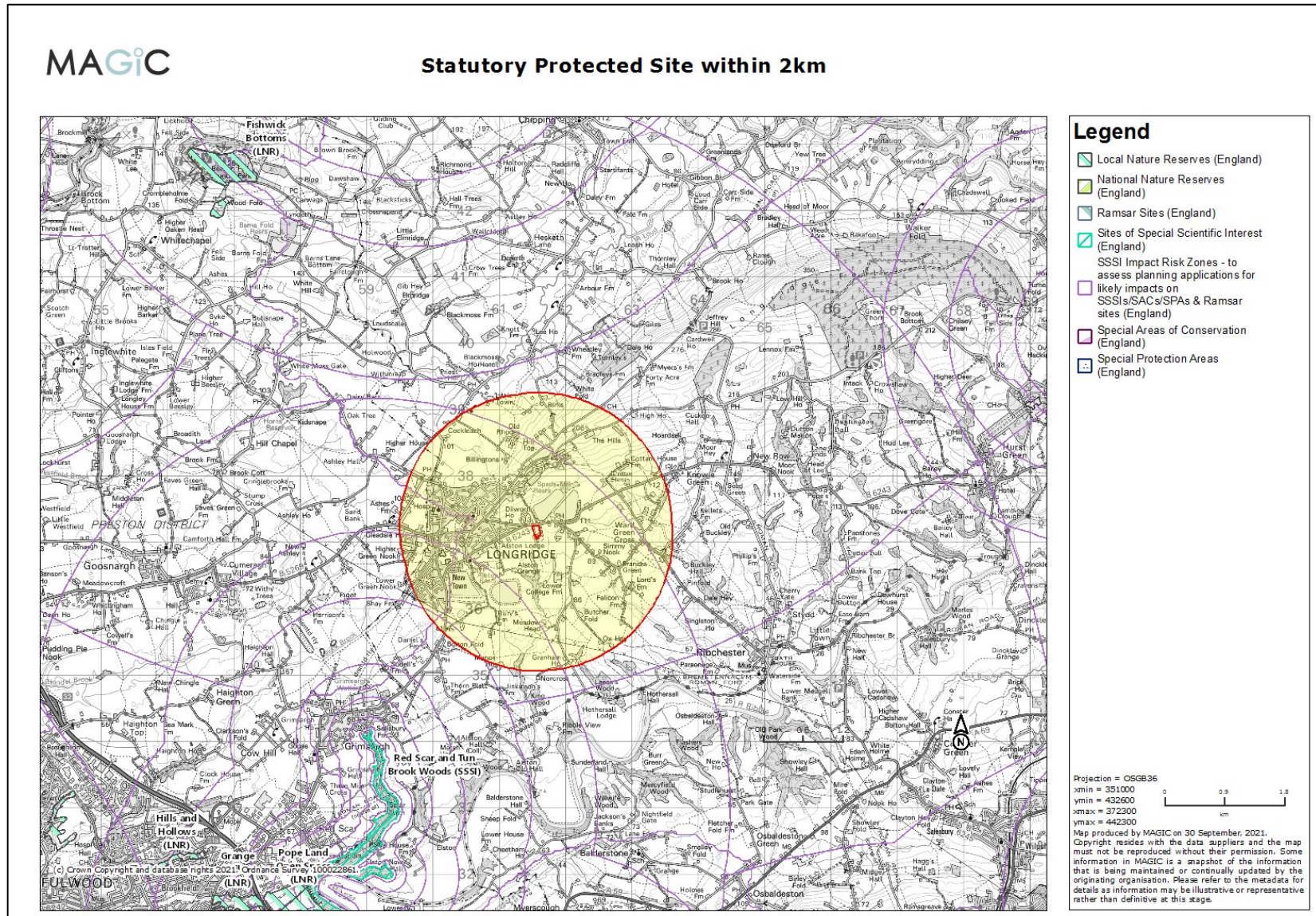

Figure 4 *Statutory designated sites 2km buffer.*

6. PHASE 1 SURVEY RESULTS

6.1 Habitat Results

6.1.1 The site comprises two distinct sections; a field of poor semi-improved grassland with hedges on its boundary to the North, and a residential dwelling with associated outbuildings and amenity grassland lawns to the South. The site has not significantly changed since the previous site visit.

6.1.2 The site abuts a farm complex to the South, an access track to the East, public highway to the North and agricultural land to the West.

6.1.3 See Figure 5 for the Phase 1 Habitat Plan and Table 1 for the descriptive Target Notes.

Target Note	Description	Comment
TN1	Poor semi-improved grassland	The Northern part of the site is a large parcel of poor semi-improved grassland. This is homogenous throughout the sward and of poor species diversity, comprising perennial rye grass (*Lolium perenne*), rough meadow grass (*Poa trivialis*), Yorkshire fog (*Holcus lanatus*), cock's foot (*Dactylis glomerata*), creeping buttercup (*Ranunculus repens*), meadow buttercup (*R. acris*), white clover (*Trifolium repens*), greater plantain (*Plantago major*), curled dock (*Rumex crispus*), dandelion (*Taraxacum officinale*), meadow buttercup *(Ranunculus acris)* and common mouse ear chickweed *(Stellaria media)*. There was larger quantity of dock in the south of the poor semi-improved grassland field.
TN2	Amenity grassland	Around the buildings in the Southern part of the site is amenity grassland forming a lawn which is mown to a very short height. Species here are limited to annual meadow grass (*P. annua*), dandelion, creeping buttercup, white clover and dandelion. In 2021 a compost heap was identified in the north western corner of the amenity grassland.
TN3	Hardstanding	The buildings are set within a hardstanding yard which is accessed by a track along the Western boundary.
TN4	Buildings	Numerous buildings are present in the Southern part of the site but are not considered in this report.
TN5	Scrub	A small parcel of scrub vegetation behind outbuildings in the South-west area of the site, composed of opportunistic species such as nettle (*Urtica dioca*) and bramble (*Rubus fruticosus* agg.) and scattered trees including sycamore (*Acer pseudoplatanus*) and ash (*Fraxinus excelsior*).
TN6	Intact hedge – species poor	The South and Eastern boundaries of the site, around the residential garden, are marked by Leyland Cypress (*Cupressus x leylandii*) hedges.
TN7	Intact hedge – species poor	Separating the poor semi-improved grassland from the residential part of the site is a short section of species poor hedgerow composed almost entirely of hawthorn (*Cretaegus mongyna*) with occasional elder (*Sambucus nigra*).
TN8	Intact hedge – species poor	The Western boundary of the field is also marked by a hawthorn hedge, though there is a greater diversity of woody species, with sycamore, blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*) and rose (*Rosa* sp.) present throughout.

		There is no woodland ground flora associated with the hedge, but nettle (*Urtica dioica*), bramble (*Rubus fruticosus* agg.), cleavers (*Galium aparine*), garlic mustard (*Alliaria petiolata*), cow parsley (*Anthriscus sylvestris*), herb-Robert (*Geranium robertianum*) and red campion (*Silene dioica*) occur along the base.
TN9	Intact hedge – species poor	The hedgerow in BTN8 also forms the Eastern edge of the access track. Opposite it to the West is a parallel hedge composed of hawthorn, elder, sycamore, hazel and young ash trees, interwoven with honeysuckle (*Lonicera periclymenum*) and bramble.
TN10	Intact hedge – species poor	The Northern boundary hedgerow is predominantly blackthorn, with hawthorn, elder and sycamore. The ground flora of this hedge is more diverse than elsewhere, with nettle, red campion, cow parsley, hogweed (*Heracleum sphondylium*), dog mercury (*Mercurialis perennis*) and tufted vetch (*Vicia cracca*).
TN11	Scattered/parkland broadleaf trees	A single large sycamore tree stands within the hedgerow on the Northern boundary (BTN10).
TN12	Scattered/parkland broadleaf trees	Three small apple (*Malus domestica*) trees in the lawn to the North of the buildings.
TN13	Scattered/parkland broadleaf trees	A large oak (*Quercus* sp.) tree stands in the Eastern part of the site, within the garden of the buildings.
TN14	Bats	The potential of the buildings on site to be used by roosting bats is not considered in this report.
TN15	Bats	The are a low number of trees on the site which have been assessed as being category 2, following BCT guidelines, and should be re-inspected if they are to be felled or otherwise affected by the proposed work. A further tree within the area of scrub in the south west of the site has a bat box installed on it.
TN16	Birds	Hedgerows and trees are likely to be used by feeding and nesting birds.

Table 1 *Details of Target Notes.*

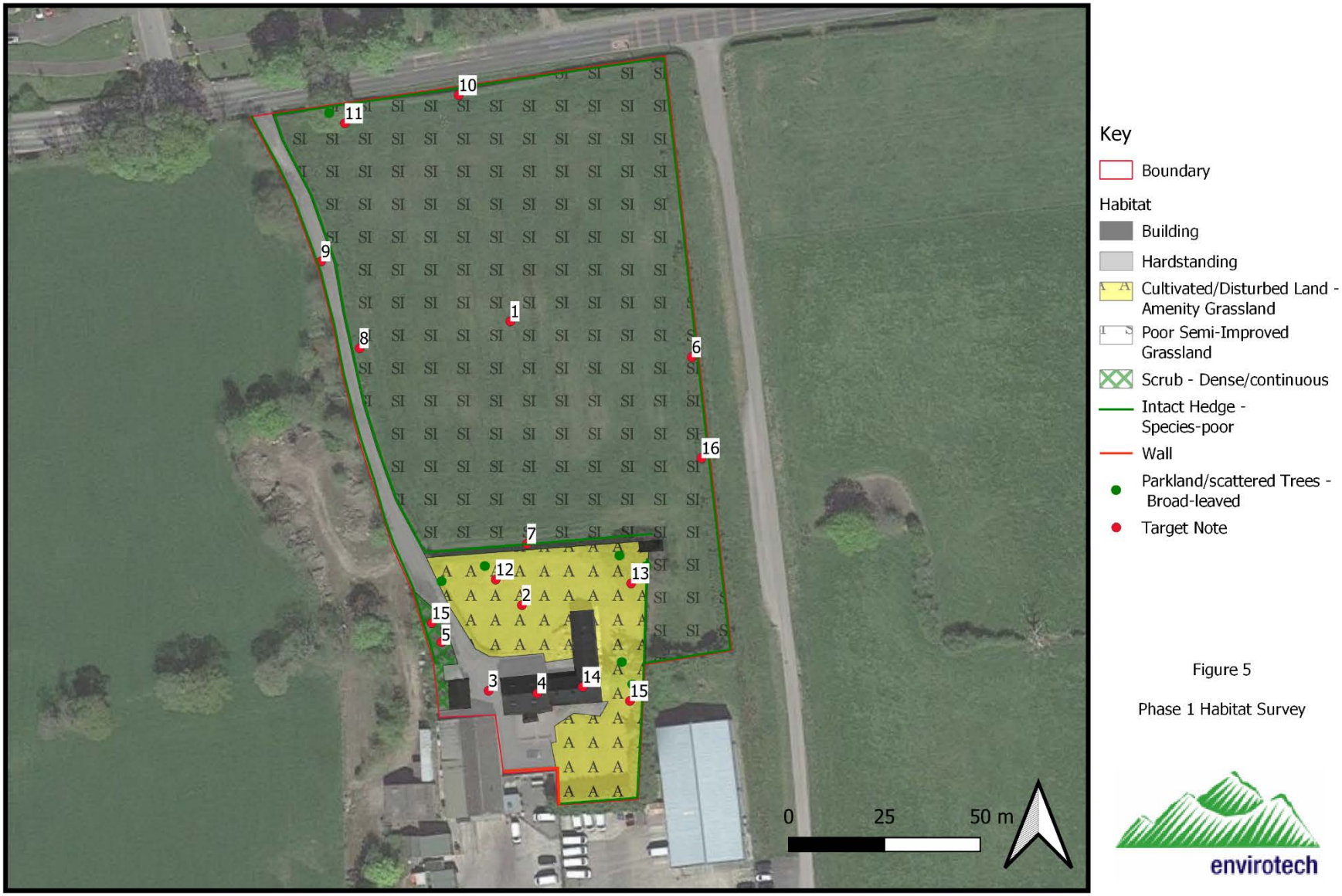

Figure 5

Phase 1 Habitat Survey

	The Northern part of the site is poor semi improved grassland (BTN1), bound on all sides by hedgerows (BTN6-BTN10).
	The Southern part of the site contains buildings (BTN4) and amenity lawns (BTN2).
	The site is accessed by a track leading from the public highway to the North (BTN3) which is flanked by hedges (BTN8 & BTN9).

	The South and Eastern hedgerows are composed entirely of Leyland cypress (BTN6), offering little ecological interest.
	There are scattered trees within the site (BTN11 – BTN13). A bat box was identified on one of the trees within the area of scrub in the south west of the site.
	The buildings were not assessed for their potential to be used by bats or other protected species (FTN1).

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 poor semi-improved and amenity grassland have very low species diversity and ecological value. Whilst the assemblage of species within it is higher than improved pasture, the species are all indicative of regular grazing/mowing and disturbance; these habitats do not constitute BAP habitats.

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

6.2.5 Trees within the site boundary comprise scattered oak, sycamore and fruit trees, and young specimens within some of the hedgerows. These trees do not form woodland but all trees should be retained in any proposed scheme and or where they are removed new tree planting should be undertaken. Cut wood from felled trees should be stacked on the site boundaries where it can decay naturally and provide habitat for invertebrates.

6.2.6 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 114 records for amphibians within 2km of the site, comprising 70 records of great crested newt, 17 records of smooth newt (*Lissotriton vulgaris*), 21 records of common frog (*Rana temporaria*) and six records of common toad (*Bufo bufo*).

6.3.2 There is no standing water on site, though there are several ponds in the immediate area. Three ponds occur to the East (Ponds 1-3). These could all be accessed and inspected. To the North is a large reservoir (Pond 4), the size of which and abundance of waterfowl makes it unsuitable for use by great crested newts.

6.3.3 Another small pond (Pond 5) can be seen on aerial photography, c.200m to the North-west. This is on private land and so could not be inspected, but the presence of a major public highway between the pond and the site poses a significant barrier to the dispersal of amphibians and is considered sufficient to prevent their ingress, if present.

6.3.4 The locations of the ponds and their respective distances from the site are shown on Figure 6.

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

6.3.5 Pond one is a livestock drinking pond which was found to be dry during the 2021 survey, this pond is covered with grass indicating that this area has been dry for a period of time which would make this feature suboptimal for amphibians. Ponds two and three are also ephemeral features and were found to be predominantly dry during the 2021 survey.

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

6.3.7 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'.

Index	Pond 1	Pond 2	Pond 3
Location	1	1	1
Pond area	0.2	0.2	0.2
Pond drying	0.1	0.1	0.1
Water quality	0.01	0.01	0.01
Shade	1	0.2	0.2
Fowl	0.67	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	**0.33 *(Poor)***	**0.28 *(Poor)***	**0.28 *(Poor)***

Table 3 Results of Habitat Suitability Index.

6.3.8 All of the ponds had low HSI scores. Their ephemeral nature, lack of significant foraging opportunities and low water quality all contributed to this. Scores of 0.5 or less are considered to be of 'poor' suitability for great crested newts.

6.3.9 The majority of the site has negligible value to any amphibian species using these ponds for breeding. Amenity and semi-improved grassland habitats offer negligible foraging opportunities to these species. The commuting and refuge opportunities offered by these habitats are also negligible.

6.3.10 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.

6.3.11 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.

6.3.12 Amphibians are considered highly unlikely to habitually occur on the site. As such precautionary mitigation would be appropriate in respect of construction activities.

6.4 Badger

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

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

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

6.4.4 Precautionary mitigation is considered appropriate during construction. The design of fences/walls should be considerate to the passage of badgers.

6.5 Bats

6.5.1 There are 19 records of two species of bat within 2km of the site, common pipistrelle (*Pipistrellus pipistrellus*) and brown long-eared (*Plecotus auritus*) bats.

6.5.2 The habitat at the site is of low value for bats being predominantly open grassland. The peripheral hedgerows offer small areas of suitable foraging habitat, but connectivity between these and the wider area is poor.

6.5.3 Higher quality habitats for foraging bats do occur locally, most notable the large reservoirs to the North-east (Figure 7). These are likely to be the focal points for bats in the area.

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

6.5.5 All trees around the site perimeter were also assessed in accordance with Collins ed. (2016) and assigned a risk category. All of the trees on site were category 2 (low) or category 3 (negligible) risk, with the exception of the tree in the scrub in the south west of the site which had a bat box installed on it, this tree would be category 1* (high) 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 9.

6.5.6 Several buildings are present on site, but these were not inspected for their potential to be used by bats. It is understood that this is being undertaken by other suitably qualified persons.

6.5.7 We consider bat species are highly unlikely to rely on the site for feeding but may occur in the local area.

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.

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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

Key

Boundary

Tree Risk Category

Figure 8

Bat Tree Risk Category Map

envirotech

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

Figure 9 *Tree risk categories from Hundt (2012).*

6.7 Birds

6.7.1 There are numerous records of birds within 2km of the site.

6.7.2 The intact hedgerows and scattered trees offer potential habitat for feeding and nesting birds. The grassland areas have a low potential for use by nesting birds as the swards are maintained at a short sward height.

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

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

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

6.7.6 Precautionary mitigation would be appropriate in respect of construction activities and compensation for lost nesting and foraging opportunities will be required.

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 boundary has some potential for brown hares to create forms but use of the site is likely to be limited due to its open and exposed nature and regular human presence.

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 Notable invertebrates have been recorded within 2km of the site.

6.9.2 No deadwood was recorded on site, and the plant assemblages present are not noteworthy for supporting invertebrates.

6.9.3 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.

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

6.10 Reptiles

6.10.1 There are two records for slow worm (*Anguis fragilis*) within 2km of the site, though these both date from 1979.

6.10.2 No indication of reptiles was recorded at the site.

6.10.3 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.

6.10.4 No specific mitigation for these species is considered necessary.

6.11 Other

6.11.1 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.

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

6.11.3 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.

6.12 Statutory and Non-Statutory Sites

Direct Impacts:

6.12.1 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.

6.12.2 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:

6.12.3 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.

7.2 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 Consider the use of SUDS on site to provide new aquatic habitat during development. Such areas would be best placed in public open space where connectivity to the site boundaries and wider area is improved.

7.2.3 In order to further minimise impacts on amphibians the following points should be observed;

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

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

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

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

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

7.3 Badger

7.3.1 Badger setts are not known to occur within 2km of the site but in order to minimise impacts on badgers passing over the site the following points should be observed;

- 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 could be incorporated into the buildings on site or bat boxes could be erected in retained trees.

7.4.3 Any category 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 hedges 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.

7.8 Reptiles

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

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

8. CONCLUSION

8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land at Higher College Farm, off Blackburn Road, Longridge, Lancashire. It is proposed that new commercial units will be constructed on the site, however, the quantity of units and exact plans are currently unknown.

8.1.2 It is considered, based on the current understanding of the site proposals, that SSSI Impact Risk Zones will not be a notable constraint, however, this will be confirmed once exact plans are known.

8.1.3 Amphibians, Bats, Birds, Reptiles and Invertebrates 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.

8.1.4 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.

8.1.5 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.

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

8.1.7 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.

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

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

Joint Nature Conservation Committee (2010). Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit. Reprinted by JNCC, Peterborough. - See more at: http://www.cieem.net/habitats-general#sthash.mJYlrP8L.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.

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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
1	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	Yes	No	Yes	No	2	4	0	**No**
2	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	Yes	No	2	4	1	**No**
3	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	1	2	0	**No**
4	No	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	Yes	No	No	No	2	3	0	**No**
5	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	Yes	No	No	No	2	0	0	**No**
6	No	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	Yes	No	No	No	2	0	0	**No**
7	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	3	0	0	**No**
8	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	2	3	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.


Key
Site Boundary
Hedge Number
1
2
3
4
5
6
7
8
N
envirotech
APPENDIX 1
Hedgerow Regulations Assessment
SCALE: NTS
REV 01