envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Ecological Appraisal

LAND OFF MITTON ROAD, WHALLEY

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PROFESSIONAL RESPONSIBILITY

This report has been commissioned and the actions of the surveyor have been made in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management. (www.cieem.org.uk) and the Royal Institution of Chartered Surveyors (www.rics.org.uk)

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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Author	Chris Arthur	Date	26/07/2016
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Contents

1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned in May 2016 by Sunderland Peacock Associates to carry out an ecological appraisal of land off Mitton Road, Whalley, Lancashire. It is proposed that a business park currently being constructed on the Northern boundary is extended onto the site.

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

1.1.3 The site was then visited by a licenced ecologist from Envirotech NW Ltd on the 25th July 2016. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of bats, amphibians, nesting birds, brown hares and badgers 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 of considered of low ecological value.

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

1.1.6 Low numbers of common bat species were recorded foraging over the site. No bats were recorded roosting on or near site.

1.1.7 Birds may use the hedgerow on the Western boundary of the site for nesting. Any vegetation clearance should therefore be undertaken outside of this period.

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

2. INTRODUCTION

2.1 Background

2.1.1 In May 2016 Envirotech NW Ltd were commissioned by Sunderland Peacock Associates to carry out an Ecological Appraisal of land off Mitton Road, Whalley, Lancashire, central grid reference SD 72724 37410 (Figure 1). A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.

2.1.2 The survey was requested in connection with the proposed construction of a business park.

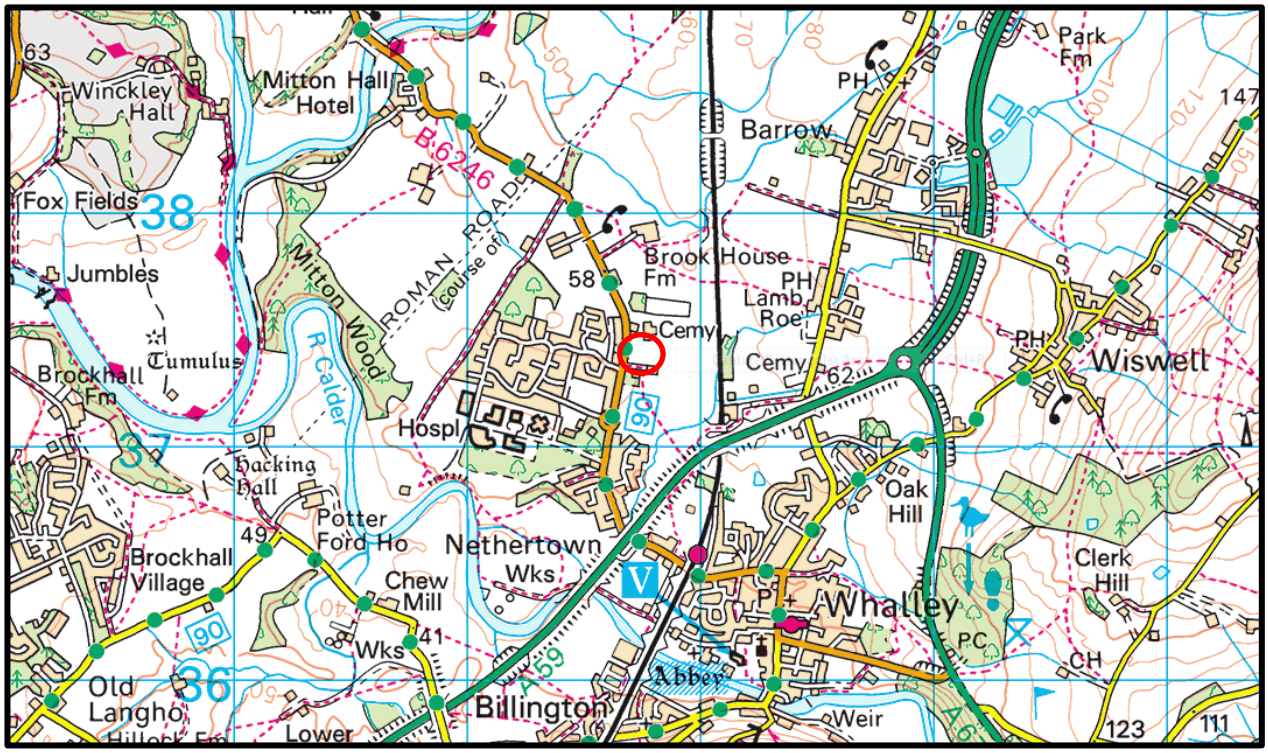

Figure 1 *Site location circled red*

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 (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

Date of visit		25th July 2016		Notes
Site inspection		1hr		
Weather conditions	Cloud	100%		1
	Wind	Nil		1
	Rain	Nil		1
	Temperature	14˚C		1
Emergence survey	Start/ Light Level	21:15	250 lux	
	End/ Light Level	23:00	0.2Lux	
Surveyors		CA		

Table 1 *Survey personnel, dates and times*

1. Weather conditions were considered acceptable for a survey at the site given the potential for use of the site and species which may be present. Bats are usually active with temperatures above 7 degrees Celsius.

Surveyors

1. (CA) Mr Chris Arthur BSc (Hons), MSc, Grad CIEEM
   Natural England Bat Class Licence (Level 2)

4. SPECIES SURVEY METHODOLOGY

4.1 Amphibian

4.1.1 Great crested newts (*Triturus cristatus*) are listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. It is protected under Schedule 2 of the Conservation (Natural Habitats) Regulations (2010) and Schedule 5 of the Wildlife & Countryside Act (1981).

4.1.2 The great crested newt baseline survey involved a pond screening assessment to determine the presence and suitability of ponds located within the study area using a Habitat Suitability Index.

4.1.3 No waterbodies were identified on site or within 250m, and so no further surveys were considered necessary.

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. The main issue on proposed development sites tends to be the potential disturbance of badgers in their setts 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. 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.

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

4.2.3 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
- Surveys were also undertaken at night, during the bat surveys, by scanning the

study area with a torch.

4.3 Bats

4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation (of Natural Habitats) Regulations (2010), as European Protected Species. Taken together, these pieces of legislation make it an offence to:

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

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

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

4.3.4 The survey area has small hedgerows within it and linear routes on its boundary. The main site however comprises an area which is open, exposed and structurally poor, it has a very low potential for use by bats.

4.3.5 As a result of the potential suitability of the habitat outside the site and along its boundaries for foraging bats but the low potential for impacts upon bat species due to the proposal being on open and exposed grassland, a single bat activity survey was deemed necessary. The survey was based upon standard guidelines Hundt (2012), Collins, J. (ed) (2016) and NCC (1987) and Mitchell-Jones (2004) and was undertaken in suitable weather conditions by suitably qualified and experienced personnel (Table 1).

4.3.6 The survey comprised a transect route which was walked in order to cover all on-site habitats from sunset until light levels dropped to the extent that bat flight heights could not be determined and walking over the site in the dark was judged to be unsafe. The surveyor used a Bat Box III bat detector.

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 The poor quality habitat suggested a low potential for breeding bird species of interest.

4.4.3 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 There 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. Bats were active at the time of the survey.

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 The nearest non-statutory designated site is Calderstones Hospital Woodland/Railway line Biological Heritage Site (BHS), adjacent to the North-east of the site (Figure 3).

5.1.3 This is designated for alder/willow carr elsewhere in the BHS, and for broad-leaved semi-natural woodland along sections of dismantled railway.

5.1.4 The nearest statutory designated site is Light Clough Site of Special Scientific Interest, c.2300m to the East (Figure 4), though this is designated for its geological features. There are no statutory designated sites for nature conservation within 5km.

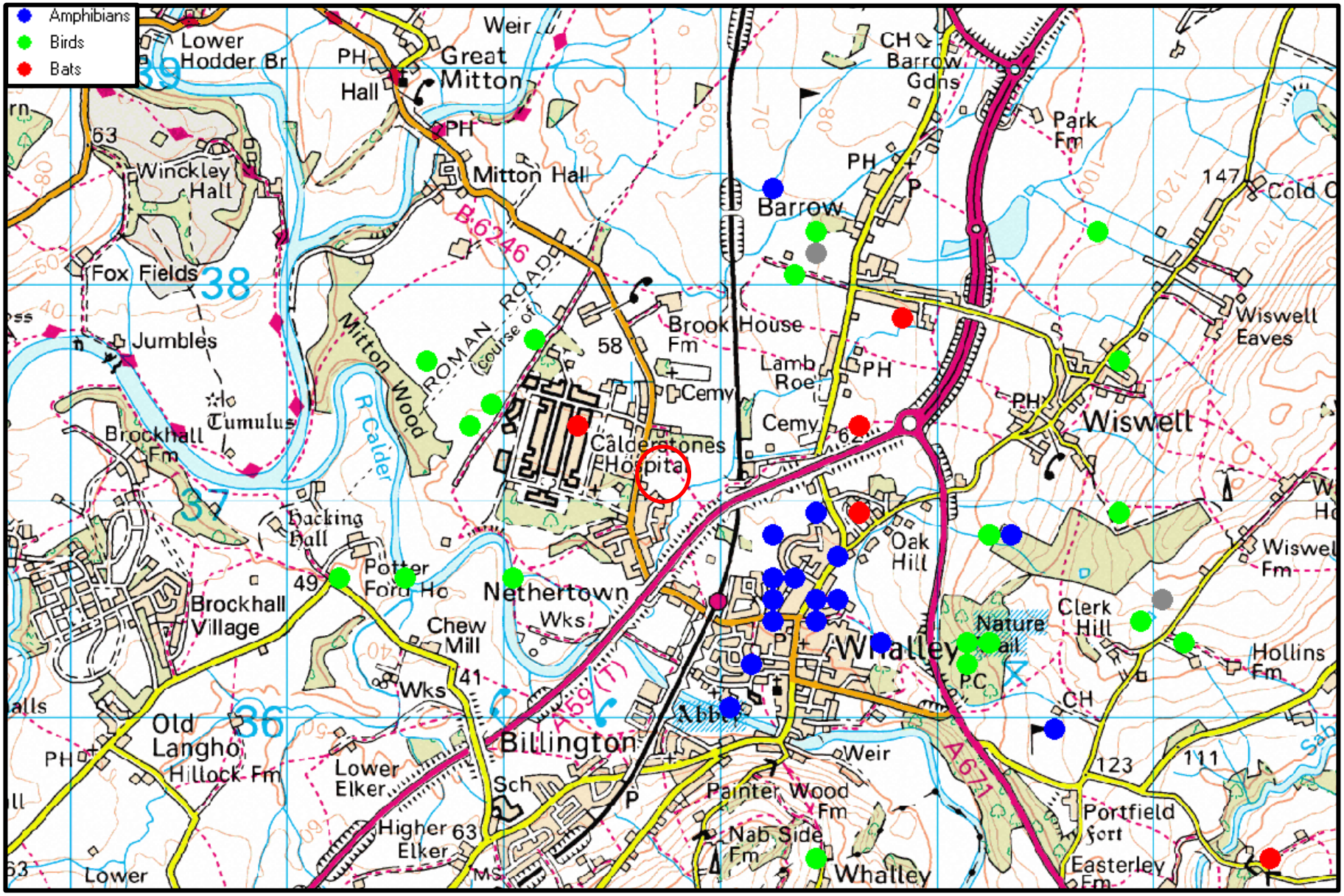

Figure 2 *Notable species records, site location circled red*

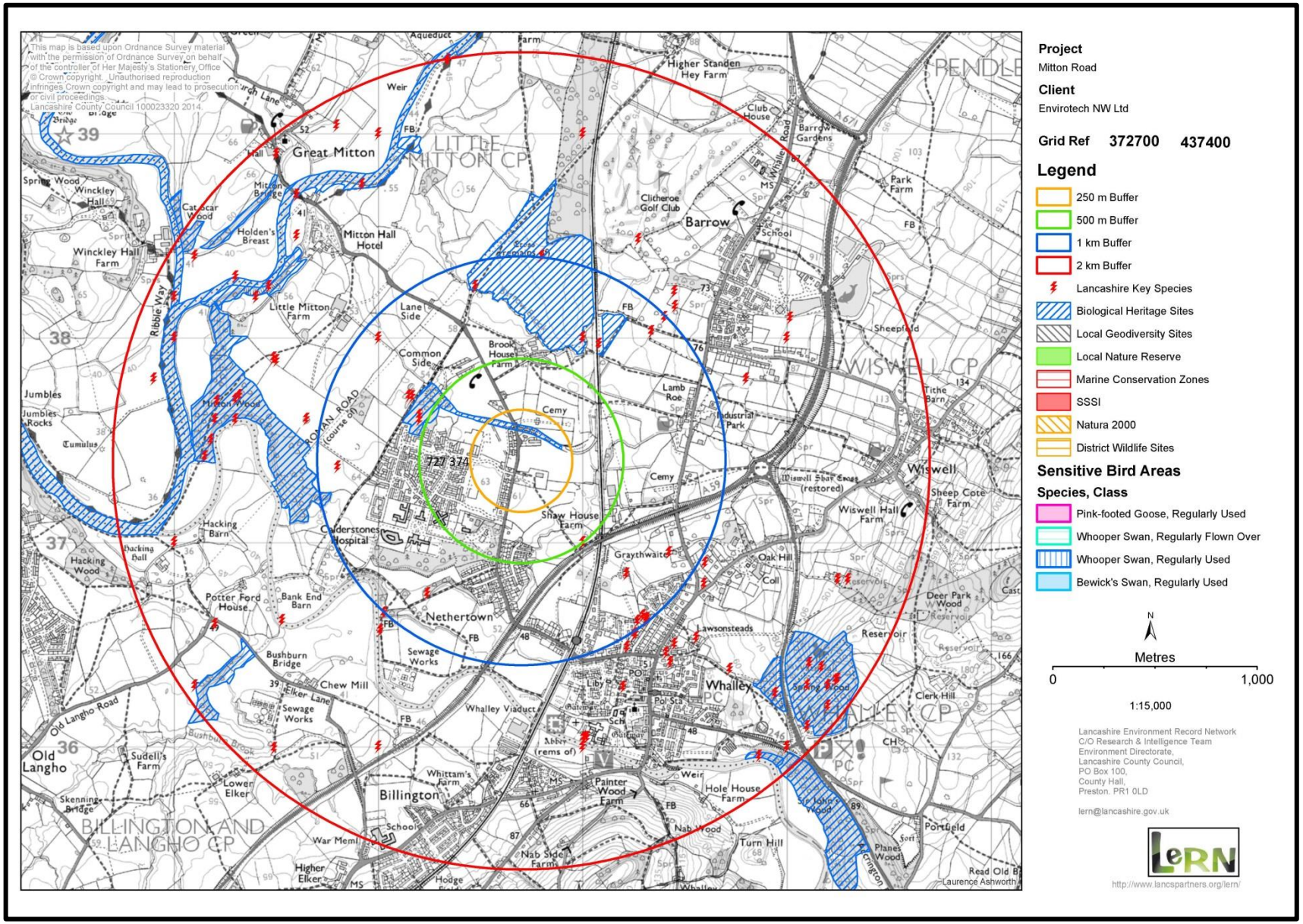

Figure 3 *Non-statutory designated sites 2km buffer*

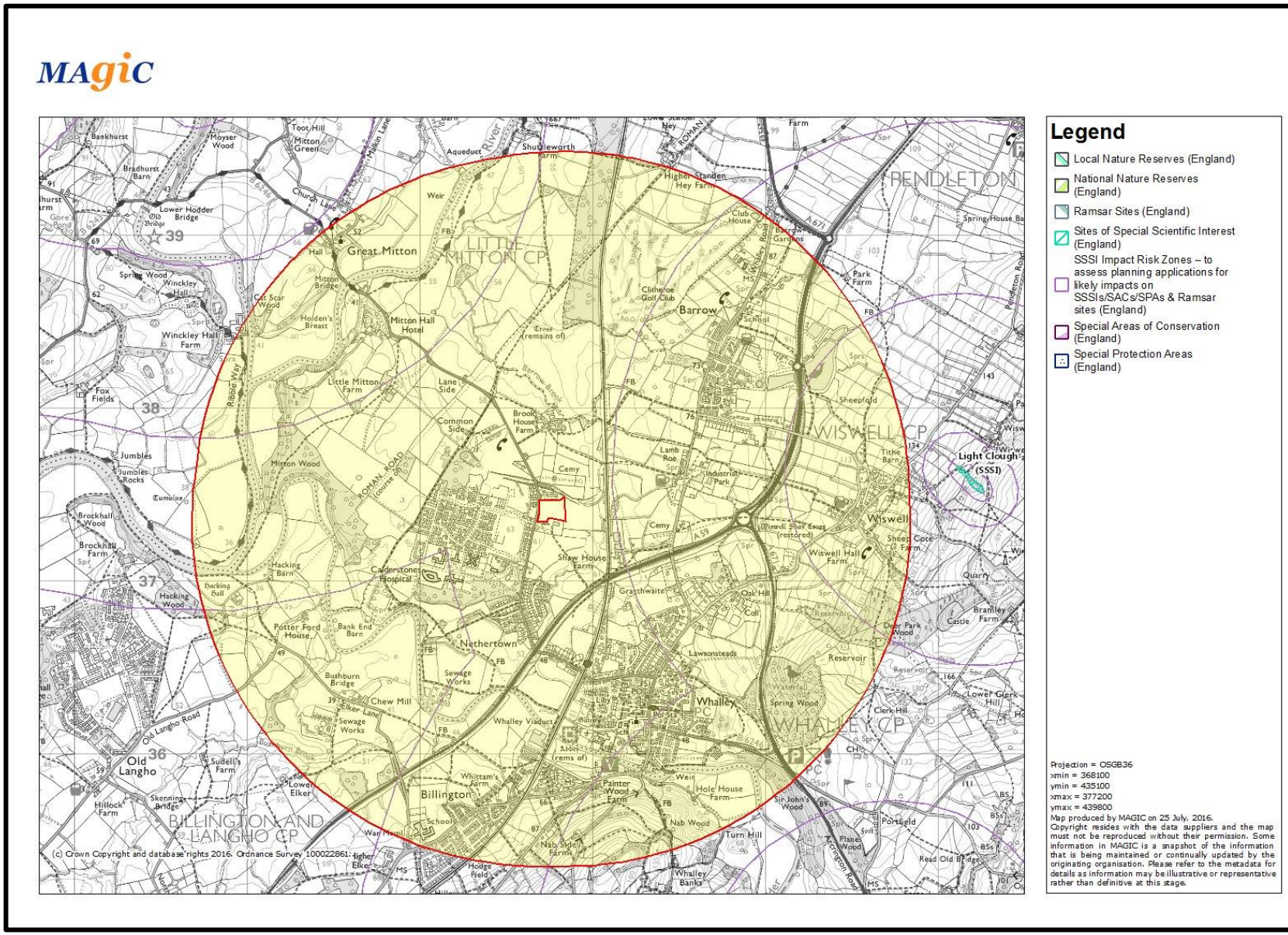

Figure 4 *Statutory designated sites 2km buffer*

6. PHASE 1 SURVEY RESULTS

6.1 Habitat Results

6.1.1 The site comprises poor semi-improved grassland with fences on the North and South boundaries and a small hedgerow to the West.

6.1.2 There is an active construction site adjacent to the North, a public highway to the West, a small collection of buildings to the South, and open pasture to the East.

6.1.3 See Figure 5 for the Phase 1 Habitat Plan and Table 2 for the descriptive Botanical and Faunal Target Notes, hereafter referred to as BTN and FTN.

Target Note	Description	Comment
BTN1	Poor semi-improved grassland	The site is a field of semi-improved grassland. The sward was long at the time of the survey and is composed of perennial rye grass (*Lolium perenne*), Yorkshire fog (*Holcus lanatus*), crested dog's tail (*Cynosaurus cristatus*), sweet vernal grass (*Anthoxanthum odoratum*), red fescue (*Festuca rubra*) and bent (*Agrostis* sp.). Forbs are rare in the sward and limited to creeping buttercup (*Ranunculus repens*) and curled dock (*Rumex crispus*). Although there are no particularly wet areas of the site, there is occasional soft rush (*Juncus effusus*) and common sedge (*Carex nigra*) throughout the sward.
BTN2	Intact hedge – species poor	The Western boundary of the site is demarcated by a low blackthorn (*Prunus spinosa*) hedgerow. There is frequent ash (*Fraxinus excelsior*), hazel (*Corylus avellana*) and sycamore (*Acer pseudoplatanus*), as well as occasional hawthorn (*Cretaegus monogyna*) and elder (*Sambucus nigra*). Nettle (*Urtica dioica*), common vetch (*Vicia sativa*) and herb-Robert (*Geranium robertianum*) grow along the base. There are two taller, but young, trees within the site; a sycamore and an ash.
BTN3	Fence	The Southern boundary of the site is marked by a wooden fence. To the North, temporary barrier fencing separates the site from the construction site to the North.
BTN4	Scattered/parkland broadleaf trees	Scattered sycamore, goat willow (*Salix caprea*) and field maple (*A. campestre*) trees are present along the Northern boundary. These are young and appear to be in poor condition.
BTN5	Other habitat	To the North is an active construction site of commercial/industrial buildings.
BTN6	Hardstanding	A public highway, Mitton Road, is adjacent to the West.
BTN7	Poor semi-improved grassland	The grassland continues to the East.
BTN8	Other habitat	Several agricultural style buildings and a yard abuts the site to the South. Along part of the Northern boundary of this area is dense scrub and scattered trees. These are mostly exotic conifers, but ash and goat willow also occur occasionally. The scrub is composed predominantly of bramble (*Rubus fruticosus* agg.) and nettle.
FTN1	Birds	The hedgerow to the West could be used by feeding and nesting birds, though no nest sites were found during the survey..

Table 2 *Details of Botanical and Faunal Target Notes*

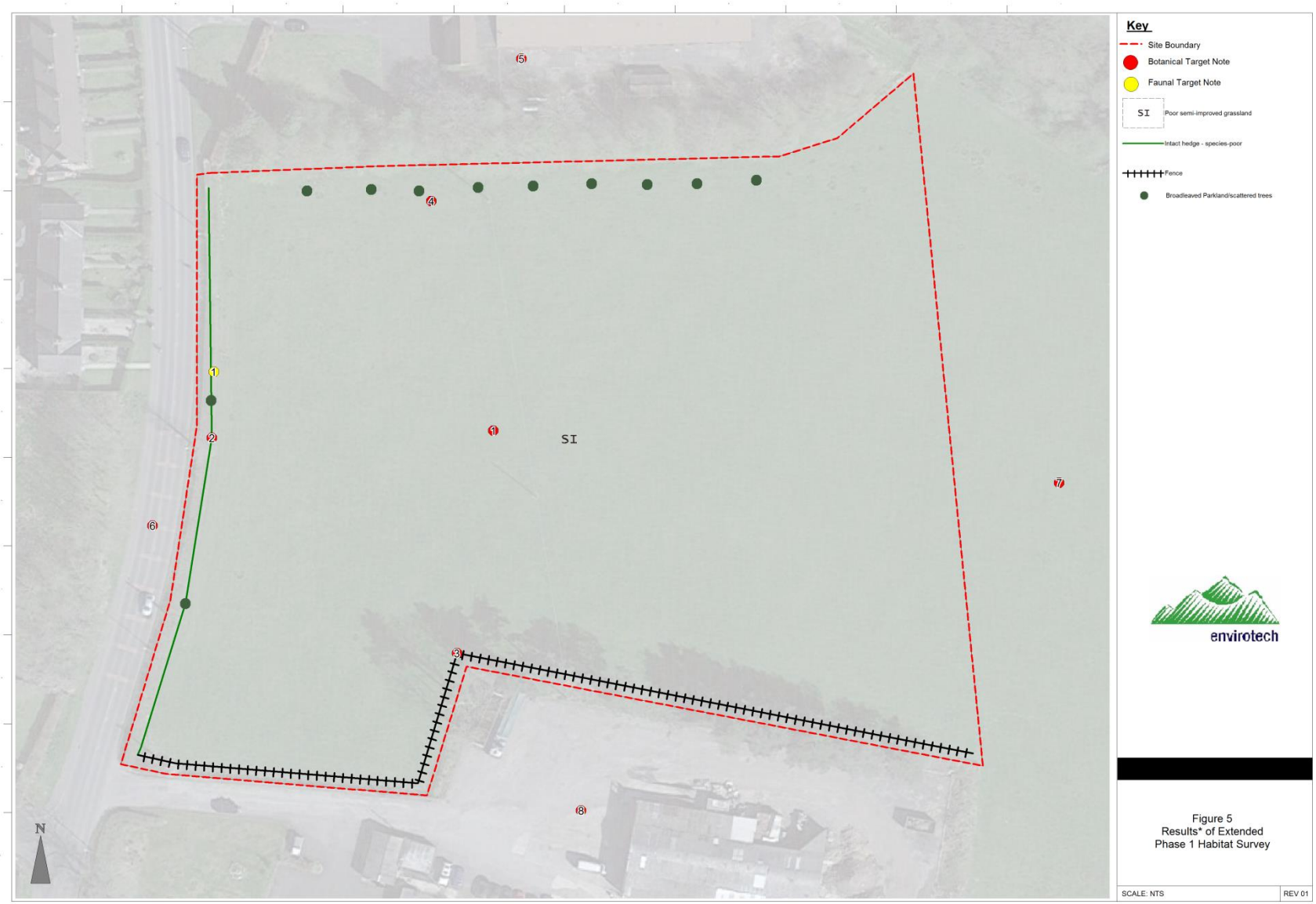
Key
Site Boundary
Botanical Target Note
Faunal Target Note
SI
Poor semi-improved grassland
Intact hedge - species-poor
Fence
Broadleaved Parkland/scattered trees
SI
N
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Figure 5
Results* of Extended
Phase 1 Habitat Survey
SCALE: NTS
REV 01
*Habitats outside the site boundary are indicative only
and have been mapped from within the site boundary or from publicly accessible land

	The site is a part of a field of poor semi-improved grassland (BTN1). The sward was long at the time of the survey and dominated by graminoids.
	A species poor hedge runs along the Western boundary of the site (BTN2). Blackthorn is the dominant species, but hawthorn, sycamore, elder, ash and hazel are also present.
	Scattered young sycamore, field maple and goat willow trees along the Northern edge of the site are of low quality (BTN4). The active construction site to the North is also visible (BTN5).

Table 3 *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 grassland has a 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 and disturbance, this habitat does not constitute a BAP habitat.

6.2.3 The intact hedge to the West is species poor and contains a low diversity of woody plant species but all hedgerows are a UK BAP habitat. It should be retained in any proposed scheme or where lengths need to be lost, they should be transplanted or new hedges planted as compensation.

6.2.4 The hedgerow to the West is not classified as important under the Hedgerow Regulations (1997) (appendix 1).

6.2.5 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 388 records of five species of amphibians within 2km of the site. Common frog (*Rana temporaria*), common toad (*Bufo bufo*), smooth newt (*Lissotriton vulgaris*), palmate newt (*L. helveticus*) and great crested newt have been recorded locally.

6.3.2 All of the recorded locations these species occur at are isolated from the site by signficant barriers to disperal; the railway line to the East, and the main roads to the South and West.

6.3.3 There is no standing water on site, or visible on OS mapping or aerial photography within 250m of its boundaries.

6.3.4 The core development area has a low value to amphibians being open and exposed. The boundary hedgerows could be utilised as refuges and/or hibernacula but there are no breeding ponds in proximity to the site.

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

6.3.6 The proposed development will not result in the permanent loss of or a substantial negative effect on any waterbodies or foraging areas linked to them. No specific mitigation is considered necessary.

6.4 Badger

6.4.1 Two records of badgers occur within 2km of the site.

6.4.2 Badger setts do no occur on site or within 30m of its boundaries, and there were no indications of badger feeding found on site.

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.

6.5 Bats

6.5.1 There are nine records of three species of bat within 2km of the site; common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*) and noctule (*Nyctalus noctula*) bats.

6.5.2 The foraging habitat at the site is poor for bat species being open and exposed. The poor semi-improved grassland offers negligible foraging opportunities for bats. The hedge and tree lines are poor in terms of their structure, diversity and interconnectivity.

6.5.3 Despite being poor, the trees and hedgerows on the site offer the best foraging habitat for bats on the site as the remainder of it comprises open and exposed pasture. Whilst these areas of the site are the most structurally diverse they are not considered exceptional in the local area. More extensive areas of medium and high quality habitat occur locally, including the BHS to the North and residential dwellings adjacent (Figure 6).

6.5.4 To confirm the site is not used by significant numbers of bats, a walked transect of the site for a period of 1.45hrs was undertaken by one surveyor. The date, time, weather and personnel for the survey are shown in Table 1.

6.5.5 During the survey a low number of common pipistrelle bats was recorded commuting Northwards along the hedgerow on the Western boundary of the site. The results of the activity survey (Figure 7) confirm our assessment of the potential for the habitat, trees and buildings at the site to support bats.

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 are retained 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 will not 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 Value
- Medium Value
- Low Value

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Figure 6
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
Site Boundary
Transect Route
Common Pipistrelle
N
envirotech
Figure 7
Results of
Bat Activity Survey
SCALE: NTS
REV 01

6.6 Birds

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

6.6.2 The intact hedgerow to the West of the site offers potential habitat for feeding and nesting birds. The poor semi-improved grassland has a low potential for use by nesting birds as the grassland is grazed and as such is usually short. Trampling risks are also very high within this area of the site.

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

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

6.6.5 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.

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

6.7 Brown Hare

6.7.1 Brown hare are a UK BAP priority species. There are two records of brown hares within 2km of the site.

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

6.7.3 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.

6.7.4 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.

6.8 Invertebrates

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

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

6.8.3 Trees on the site boundaries contain comparatively little rotten wood in their canopies.

6.8.4 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.

6.8.5 The significance of the site to invertebrates is likely to be limited in the local context although the habitat on site will support invertebrate species. Mitigation can be incorporated into the design and landscaping scheme with the careful selection of plant species and substrates for the garden areas.

6.9 Reptiles

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

6.9.2 No indication of reptiles was recorded at the site.

6.9.3 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.

6.9.4 Reptiles may occur along the dismantled railway adjacent to the North-east corner of the site and this provides linkage across the local landscape. It is however outside the site boundary and is unaffected by the proposal.

6.9.5 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.

6.10 Other

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

6.11 Statutory and Non-Statutory Sites

Direct Impacts:

6.11.1 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.

6.11.2 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:

6.11.3 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 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.

7.1.2 The hedgerow to the West 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.

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

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

7.5 Birds

7.5.1 Nesting by birds within the development area is considered unlikely to occur. Birds may nest within hedges on the periphery of the site.

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

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

7.5.4 Artificial bird nesting sites for swallow 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.

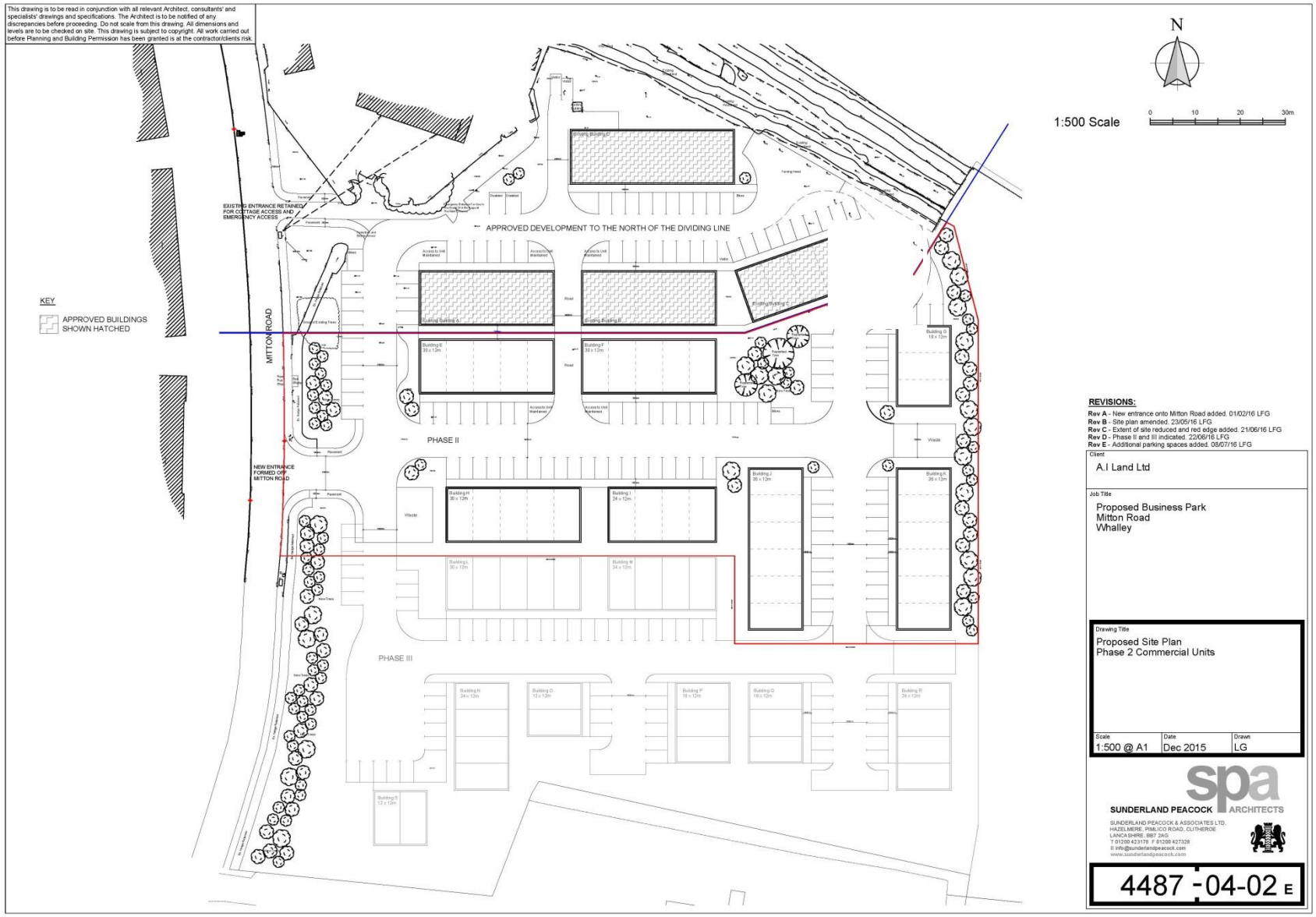

Figure 8 *Proposed site Plan*

8. CONCLUSION

8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land comprising open ground off Mitton Road, Whalley. It is proposed a business park will be constructed on the site.

8.1.2 There was no conclusive evidence of any specifically protected species regularly occurring on the site or the surrounding areas which would be negatively affected by site development following the mitigation proposed.

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

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

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

8.1.6 I certify this report has been compiled in accordance with the code of professional conduct for the Chartered Institute of Ecology and Environmental Management and The Royal Institute of Chartered Surveyors and reflects my objective opinion of the facts found in relation to the instruction received and information available based upon the methodology, assumptions and constraints detailed within this report.

8 REFERENCES

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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	No	No	No	No	0	5	0	**No**
	No = Automatic failure					Yes = Automatic pass						7 woody species or 6 woody species + 3 features or 5 woody species + 4 features or highway + 4 woody species and 2 features									

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