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Environmental and Rural Chartered Surveyors

Ecological Appraisal

Land adjacent to Shackletons Garden Centre Chatburn

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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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1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned in December 2017 by Mr D Shackleton to carry out an ecological appraisal of land adjacent to Shackletons Home and Garden. It is proposed that the site will form an extension to the existing garden centre car park.

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 Envirotech NW Ltd on the 18th December 2017. 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, birds, brown hares, reptiles and badgers at the site or in proximity such that they may be affected by the proposed development.

1.1.4 The mature trees within the site will as far as possible be retained. Plant species assemblages recorded across the remainder of the site are all common in the local area and are considered to be 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 Birds are likely to utilise hedgerows on site boundaries for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period.

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

2. INTRODUCTION

2.1 Background

2.1.1 In December 2017 Envirotech NW Ltd were commissioned by Mr D Shackleton to carry out an Ecological Appraisal of land adjacent to Shackletons Home and Garden, off Worston Road, Chatburn, central grid reference SD 76604 43479 (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 extension of the garden centre car park.

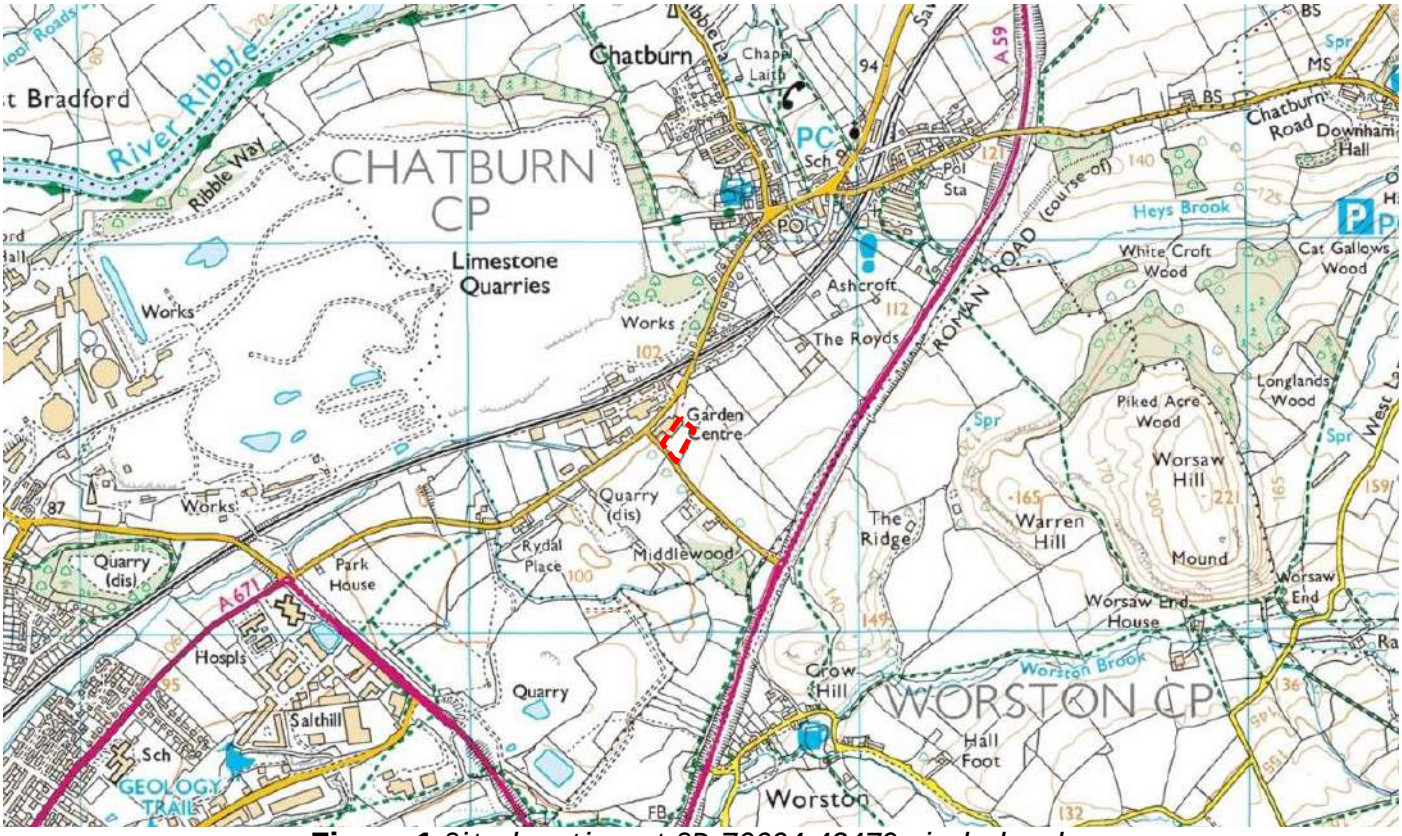


Figure 1 *Site location at SD 76604 43479 circled red.*

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*).

3.3 Timing and Personnel

3.3.1 The site and surrounding land was visited on the 18th December 2017.

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

- (EW) Miss Emma Wainwright BSc (Hons) Grad CIEEM
  Natural England Great Crested Newt Licence (Level 1)
  Unlicenced bat surveyor with three years bat scoping and emergence survey experience
  Accredited Agent on 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 Water-bodies located within or adjacent to the study area were identified and where access was possible were assessed for their potential to support great crested newts.

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

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

4.2 Badger

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

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

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

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

4.2.5 Signs of badgers which were searched for included:

- Setts - 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
- Discarded bedding at sett entrances (this includes grass and leaves)
- Scratching posts on shrubs and trees close to a sett entrance

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

4.3 Bats

4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation (of Natural Habitats) Regulations (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 Trees and structures on and within the survey area boundary were assessed for their potential to support roosting or hibernating bats. This comprised a close inspection of all trees and buildings on the site to allow an assessment of their potential to be used by bats to be made by a licensed surveyor.

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

4.4 Birds

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

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

4.5 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 The survey was undertaken in winter. At this time of year plant species are less easily identified and the activity of some species is reduced. There had been a hard frost overnight prior to the survey which thawed during the visit.

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

4.8.3 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.

4.8.4 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 c.250m to the West of the site being Bellman Farm Marsh (Figure 3). This is listed as a Biological Heritage Site (BHS) due to its mix of woodland, scrub, swamp and fen habitats. The habitats present at the site are not representative of those within this BHS.

5.1.3 The nearest statutory protected site is Clitheroe Knoll Reefs Site of Special Scientific Interest (SSSI) c.400m to the South-east of the site. This site is designated for its geological interest.

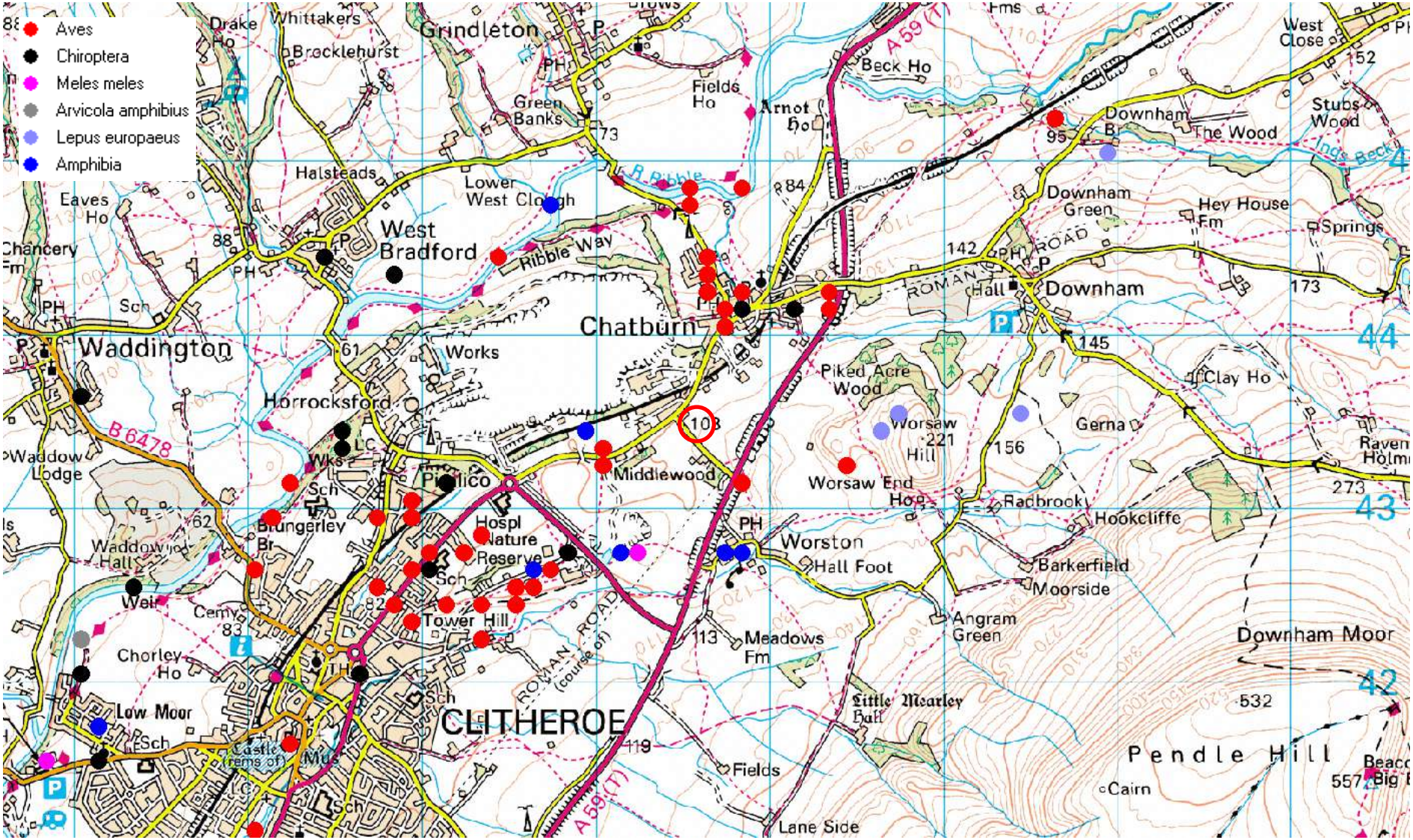


Figure 2 *Notable species records, site location is circled red.*

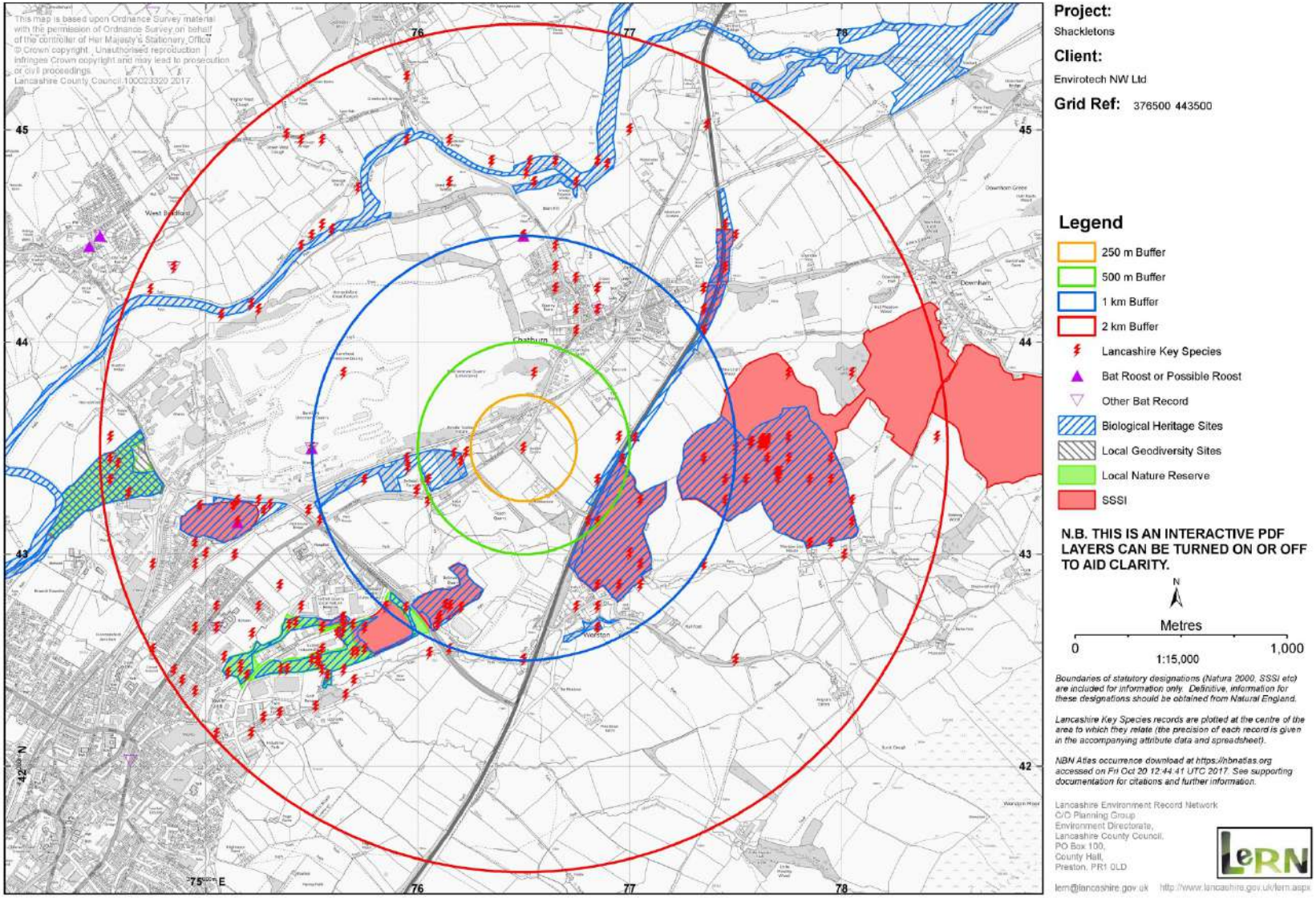


Figure 3 *Non-statutory sites 2km buffer*.

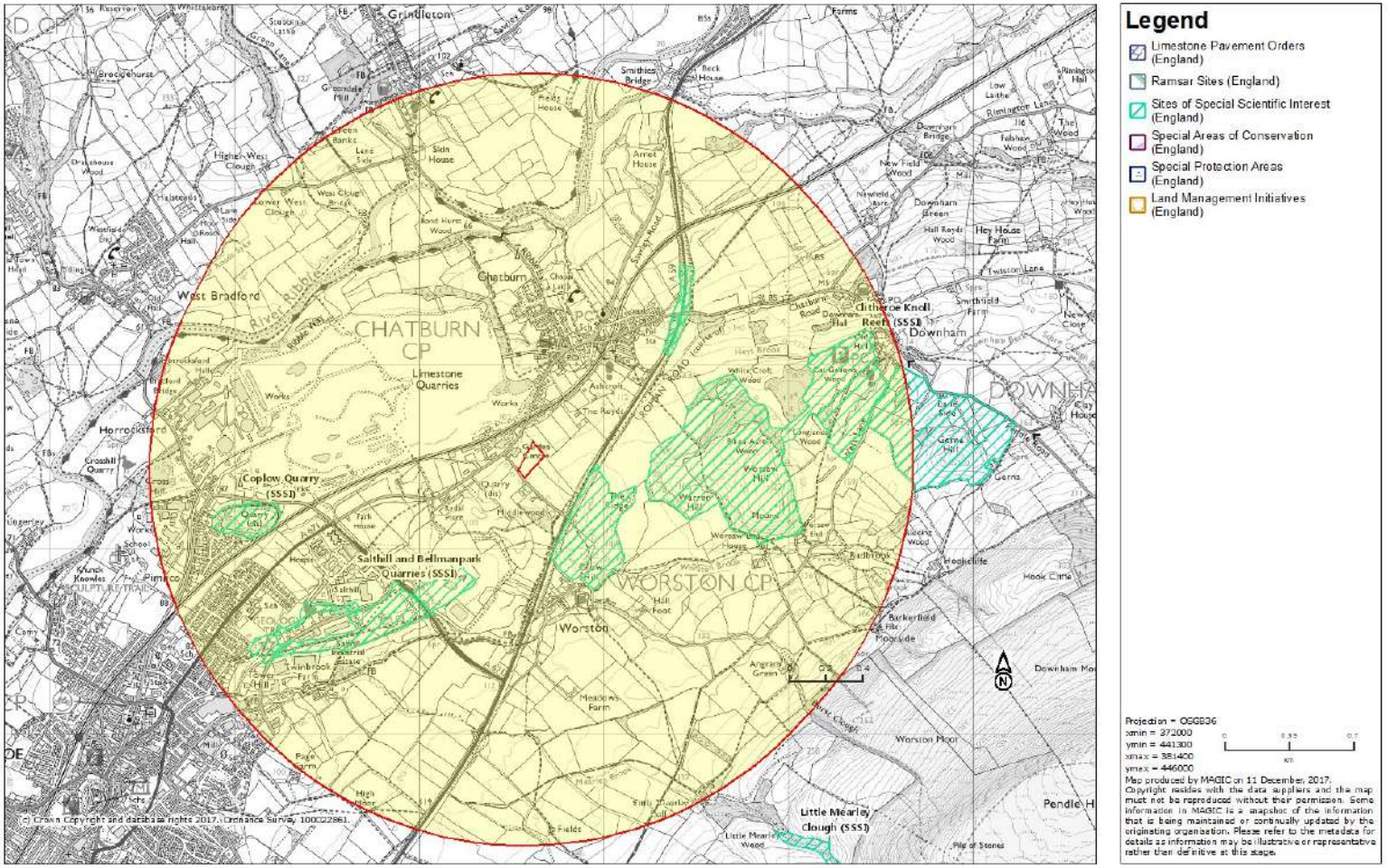


Figure 4 *Statutory designated sites 2km buffer.*

6. PHASE 1 SURVEY RESULTS

6.1 Habitat Results

6.1.1 The site comprises species poor semi-improved grassland with scattered trees within the site and on its boundaries and species poor hedgerows bounding the site to the North-west and South-west. Species poor grassland extends to the North-east and South-east.

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	Poor semi-improved grassland	The majority of the site is covered by species poor, semi-improved grassland. The grassland is sheep grazed and species which are present are indicative of high levels of disturbance. Species present include perennial ryegrass (*Lolium perene*), Yorkshire fog (*Holcus lanatus*), cocksfoot (*Dactylis glomerata*) common dandelion (*Taraxacum officinale*) and white clover (*Trifolium repens*), creeping thistle (*Cirsium arvense*), creeping buttercup (*Ranunculus repens*) and nettle (*Urtica dioica*).
BTN2	Scattered broadleaf trees	Mature trees are present through the centre and in the North-east of the site. Species present in these areas are oak (Quercus sp.) ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*). These trees are of such an age that they would not be easily replaced them in any new landscaping scheme.
BTN3	Intact hedge – species poor (Hedgerow 1)	An intact hedgerow bounds the site to the South-west. The hedgerow is tall and relatively unmanaged. Its shape is instead maintained by clipping of vehicles along the road. Woody species present in its length include hawthorn (*Crataegus monogyna*), hazel (*Corylus avellana*), ash (*Fraxinus excelsior*), elder (*Sambucus nigra*) and horse chestnut (*Aesculus hippocastanum*). Ground elder (*Aegopodium podagraria*) was present in the ground flora of the hedgerow at the time of the survey.
BTN4	Scattered trees	Trees on the North-east site boundary have bee planted at regular intervals and have wooden guards around them. They include broadleaf and coniferous species but are all immature or semi-mature. They would be replaced with relative ease in any landscaping scheme.
BTN5	Hardstanding	Hardstanding occurs to the North-west of the site forming the existing garden centre and car park. There is negligible vegetation associated with this area. Hardstanding also forms Worston Road which runs to the South-west of the site.
BTN6	Intact hedge – species poor (Hedgerow 2)	A beech (*Fagus sylvatica*) hedgerow bounding the site with Shackletons Home and Garden to the North-west appears to have been planted within the last 20 years and is species and structurally poor. At its North extent the hedgerow is cut and therefor has a marginally denser structure. In the South it has had no management, is tall and lacks structure. Small holly (*Ilex aquifolium*) individuals are dotted occasionally along the base of the hedgerow. Wood avens (*Geum urbanum*) was the only notable ground flora species present at the base of the hedge at the time of the survey.

FTN1	Bats	Trees within the site and on its boundaries were assessed for their potential to be used by roosting bats. Crevices which may provide potential bat roost sites were identified in two of the mature or veteran trees within the site boundary.
FTN2	Birds	The hedgerow on the South-west site boundary offers potential habitat for use by nesting and feeding birds. Its structure was not indicative that it would be of significance locally.

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


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

	The core development area is covered by grazed species poor grassland.
	Mature trees are scattered through the centre and North-east of the site.
	A hedgerow bounds the site with Worston Road to the South-west.

	Scattered trees on the North-east site boundary are immature.
	A beech hedge which bounds the site with Shackletons to the North-west is regularly cut at its North and unmanaged at its South.

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 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 hedgerow on the South-west site boundary contains a good diversity of woody plant species. The intact hedge bounding the site to the North-west is species poor and contains 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 boundaries are frequently of the mature age class. They are of such an age that their replacement via new planting would not be possible and they should therefore be retained.

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 no records for amphibians within 2km of the site.

6.3.2 There is no standing water on site or shown on OS mapping or aerial photography within 250m of site boundaries.

6.3.3 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.

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

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

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

6.3.7 Common toad (*Bufo bufo*) are UK BAP species, whilst these are not known to occur on site, the potential presence of this or other species, which are less habitat specific than great crested newt, should be considered. As such precautionary mitigation would be appropriate in respect of construction activities.

6.4 Badger

6.4.1 There are no records of badgers occurring within 2km of the site on the dataset searched.

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 land to the passage of badgers will not be affected.

6.5 Bats

6.5.1 There are 34 records of four species of bat within 2km of the site. Species recorded are common pipistrelle (Pipistrellus pipistrellus), soprano pipistrelle (*P. pygmaeus*), Brandt's (*Myotis brandtii*) and brown long-eared (*Plecotus auritus*) bats.

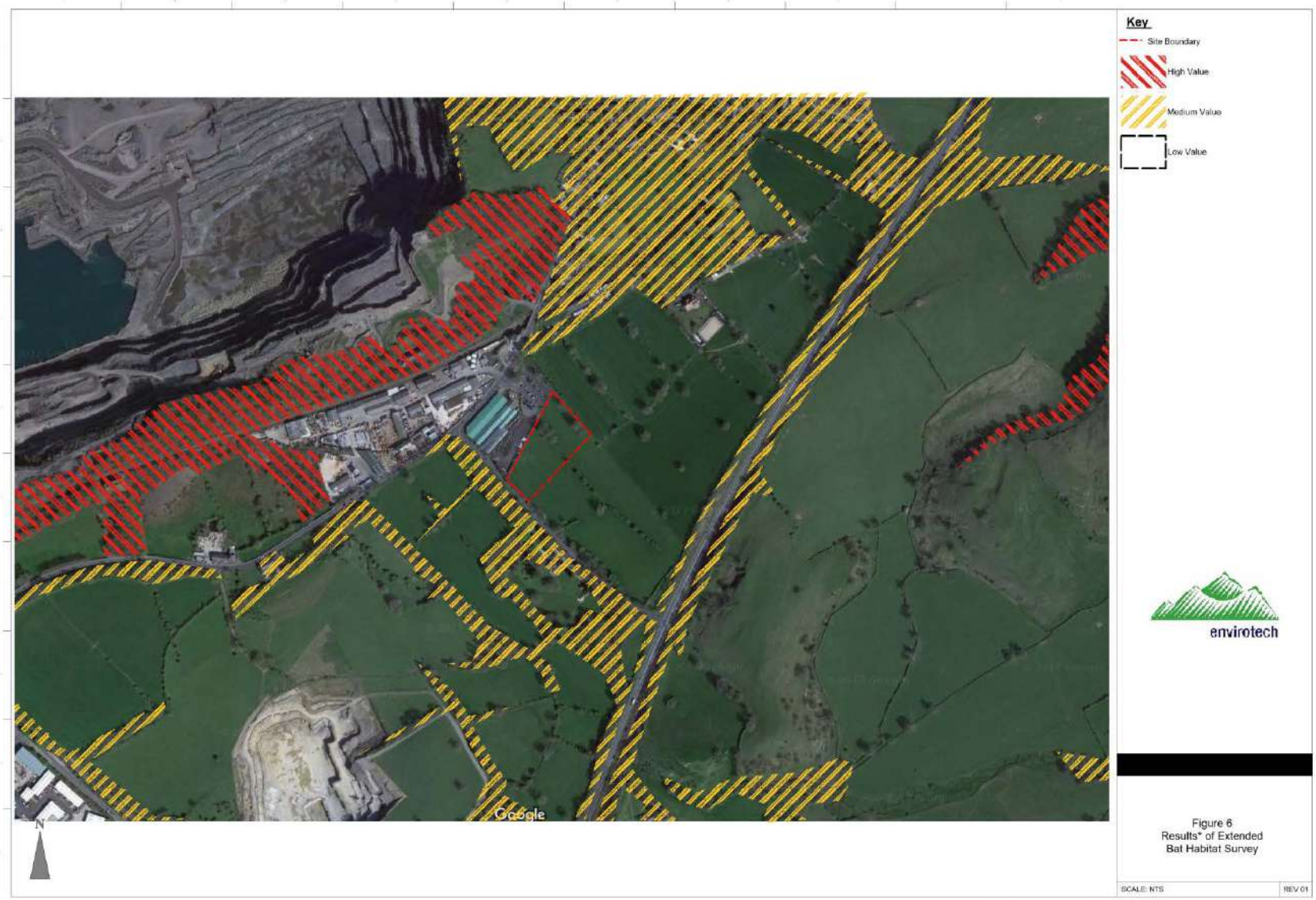
6.5.2 The foraging habitat at the site is very poor for bat species being open and exposed. The poor semi-improved grassland offers negligible foraging opportunities for bats. The hedge and tree lines are poor in terms of their structure, diversity and interconnectivity.

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 but they are not considered exceptional in the local area. More extensive areas of medium and high quality habitat occur locally, including the gardens, woodland and existing residential dwellings adjacent (Figure 6).

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

6.5.5 Mature trees on and within the site boundary were assessed in accordance with Collins ed. (2016) and assigned a risk category. Trees were assessed as being either category 2 (low risk) or category 1 (moderate risk) (Figure 7). Tree inspected were all of sufficient age that potential roost sites, not visible from the ground, may occur. 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 We consider bat species are highly unlikely to rely on the site for feeding but may occur in the local area.


Key
Site Boundary
High Value
Medium Value
Low Value
envirotech
Google
N
Figure 6
Results* of Extended
Bat Habitat Survey
SCALE: NTS
REV 01
*Habitats outside the site boundary are indicative only
and have been mapped from within the site boundary or from publicly accessible land

Key

- Site Boundary
- BCT Tree Risk Category

N

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Figure 7
Bat Conservation Trust
Tree Risk Categories

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. ***A consultant ecologist is required***	Avoid disturbance to trees, where possible. Further dusk and pre-dawn survey to establish more accurately the presence, species, numbers of bats present and the type of roost, and to inform the requirements for mitigation if felling is required.	Felling would be undertaken taking reasonable avoidance measures[3] such as 'soft felling' to minimise the risk of harm to individual bats.
Category 1 Trees with definite bat potential, supporting fewer suitable features that category 1* trees or with potential for use by single bats	Tree identified on a map and on the ground. Further assessed to provide a best expert judgement on the potential use of suitable cavities, based on the habitat preferences of bats. ***A consultant ecologist required***	Avoid disturbance to trees, where possible. More detailed, off the ground visual assessment. Further dusk and pre-dawn survey to establish the presence of bats, and if present, the species and numbers of bats and type of roost, to inform the requirements for mitigation if felling is required.	Trees with confirmed roosts following further survey are upgraded to Category 1* and felled under licence as above. Trees with no confirmed roosts may be downgraded to Category 2 dependent on survey findings
Category 2 Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.	None. ***A consultant ecologist is unlikely to be required***	Avoid disturbance to trees, where possible. No further surveys.	Trees may be felled taking reasonable avoidance measures. Stop works and seek advice in the event bats are found, in order to comply with relevant legislation.
Category 3 Trees with no potential to support bats	None. ***A consultant ecologist is not required unless new evidence is found***	None.	No mitigation for bats required.

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

6.7 Birds

6.7.1 There are 593 records of birds within 2km of the site.

6.7.2 The intact hedgerow to the South-wets of the site offers potential habitat for feeding and nesting birds. The hedgerow to the North-west provides a lower potential for such use. 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.

6.7.3 There were no holes in trees within the site boundary which were indicative of use by 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 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 hare within 2km of the site on the dataset searched.

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

6.8.3 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 at the site is low.

6.9 Invertebrates

6.9.1 271 notable invertebrates have been recorded within 2km of the site.

6.9.2 The plant species assemblages found on site are not representative of those found in sites which are designated for their invertebrate interest.

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 Semi-Improved pasture and scrub vegetation has some value to species such as common butterflies but this is not considered to be locally significant.

6.10 Reptiles

6.10.1 There is one record of slow worm (*Anguis fragilis*) within 2km of the site. No other reptile species have been recorded within this search range on the dataset searched.

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

6.10.3 No indication of reptiles was recorded at the site.

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

6.11 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.

6.12 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. Mature 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 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.

- 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 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.

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 on site in the form of bat boxes in retained trees.

7.4.3 Any category 1 trees to be felled should be re-inspected for bats to confirm they remain absent. We would however recommend all category 1 trees are retained.

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

7.6 Brown Hares

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

is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

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

7.7 Invertebrates

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

7.7.2 Contaminants should not be allowed to enter substrates 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 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 comprising grazed species poor grassland with scattered trees off Worston Road, Chatburn, Clitheroe. It is proposed that the site will form additional car parking for the adjacent Shackletons Home and Garden.

8.1.2 Amphibians, bats, birds, brown hared and badgers have been recorded 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 core development area is of low ecological value being open, grazed pasture. There are several mature trees within the site which should be retained.

8.1.4 The protection of these trees and landscaping will maintain the structural diversity and ecological value of the site.

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

9. REFERENCES

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

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

10. APPENDIX

Feature / Hedge	Length 20m +	Hedge is not bounding the curtilage of dwelling	Hedge established more than 30years	Hedge boundary of protected or common land or land used for agriculture or forestry	ARCHAEOLOGY AND HISTORY	Archaeological feature which is included in the schedule of monuments	Situated wholly or partly within an archaeological site	Boundary of a pre-1600 AD estate	Integral part of a field system	Protected species records	FEATURES	Bank or wall	Gaps less than 10%	Standard trees	Ditch	Parallel hedge	Footpath/ Bridleway	Connection points	Woody species	Average ground flora species	HEDGE CLASSIFIED AS IMPORTANT
1	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	3	3	0	**No**
2	Yes	Yes	No	Yes		No*	No*	No*	No*	No											**No**
	No = Automatic failure					Yes = Automatic pass						7 woody species or 6 woody species + 3 features or 5 woody species + 4 features or highway + 4 woody species and 2 features									

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