



envirotech

Ecological Consultants

Environmental and Rural Chartered Surveyors

Preliminary Ecological Appraisal

Crow Trees Brow, 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.

Quality and Environmental Assurance

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1. EXECUTIVE SUMMARY

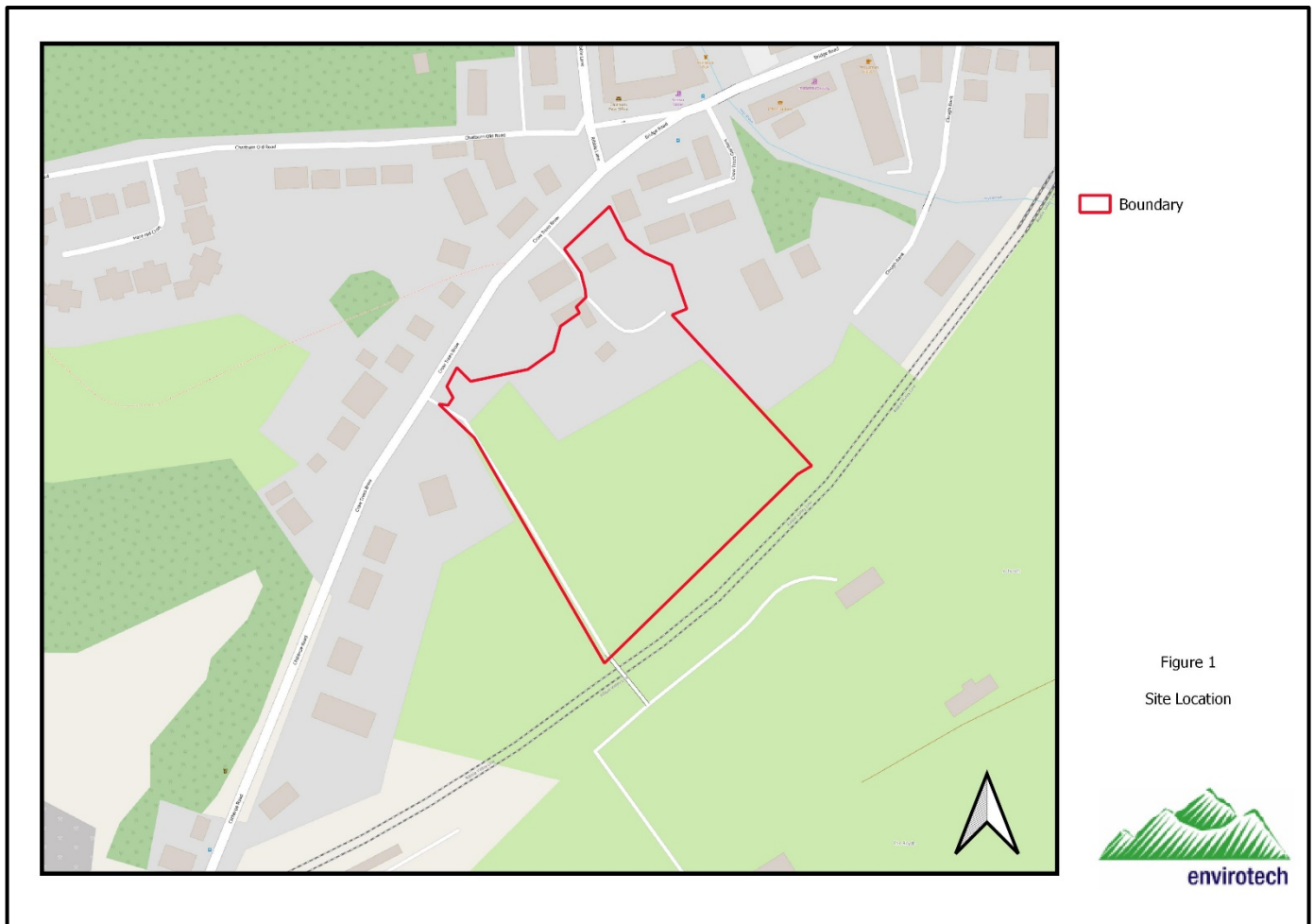
- 1.1.1 In April 2022 Envirotech NW Ltd were commissioned by Maybern to carry out a Preliminary Ecological Appraisal of land off Crow Trees Brow, BB7 4AA. It is proposed that new houses are constructed on the site.
- 1.1.2 A data search and desk study of the site and an area within 2km of the site were undertaken to establish the presence of protected species and notable habitats.
- 1.1.3 The site was then visited by a licenced ecologist from Envirotech NW Ltd on the 11th April 2022. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of notable species at the site or in proximity such that they may be affected by the proposed development.
- 1.1.4 The plant species assemblages recorded at the site are all common in the local area and are considered to be of low ecological value. Domestic gardens and sympathetically landscaped open space is considered to offer habitat of equal or greater ecological value.
- 1.1.5 None of the hedgerows around the site perimeter were considered important under the Hedgerow Regulations (1997).
- 1.1.6 No bats were recorded roosting on or near site. It is proposed that some roosting provision for bats will however be incorporated into the new houses on site. The mature trees and hedgerows are to be largely retained. The buildings have been surveyed separately and their assessment of bat potential is not covered by this report.
- 1.1.7 Birds are likely to utilise scrub on site for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period. Mature trees and hedges are to be retained where possible.
- 1.1.8 No other notable or protected species were recorded on the site.

2. INTRODUCTION

2.1 Background

2.1.1 In April 2022 Envirotech NW Ltd were commissioned by Maybern to carry out a Preliminary Ecological Appraisal of land off Crow Trees Brow, BB7 4AA (Figure 1). A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.

2.1.2 The survey was requested in connection with the proposed construction of new houses.



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

3.3 *Timing and Personnel*

- 3.3.1 During the visit, weather conditions were suitable for the survey types undertaken being warm and dry in Spring.
- 3.3.2 The site and surrounding land was visited on the 11th April 2022 by
 - (AG) Mr Andrew Gardner BSc (Hons), MSc, MRICS
Natural England Bat Class Licence (Level 2)
Natural England Bat Low Impact Class Licence

Natural England Barn Owl Licence
Natural England Great Crested Newt Licence (Level 1)
Natural England Badger Class Licence
Natural England White Clawed Crayfish Licence

- (EP) Ms Emily Peacock
Natural England Bat Class Licence (Level 1 Agent)
Natural England Barn Owl Licence (Agent)
Natural England Great Crested Newt Licence (Level 1 Agent)

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 There are no water-bodies located within or adjacent to the study area. There are no water bodies located anywhere on the proposed development site or within an appropriate proximity to support amphibians. We therefore deem the risk to amphibians as very low.

4.2 *Badger*

- 4.2.1 Badgers (*Meles meles*) and their setts are protected under the Protection of Badgers Act (1992). This legislation arises from animal welfare issues (rather than on the basis of nature conservation grounds) and protects badgers from being killed, injured or disturbed whilst occupying a sett.
- 4.2.2 A disturbance to badgers in their setts may occur as a result of construction operations. Natural England recommends that the use of heavy machinery in proximity of a sett entrance should be avoided, with a 'disturbance free-zone' being established.
- 4.2.3 The degree of disturbance attributed to construction activity is a function of the background level of activity badgers are accustomed to and that which will be attributed to a proposed activity. The "disturbance free zone" is therefore site specific.
- 4.2.4 The survey for badgers comprised an assessment of all suitable habitat within and outside the study area boundary (where this was possible) to a distance of 30m for indications of use by badgers.
- 4.2.5 Signs of badgers which were searched for included:
- Setts - 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
 - Discarded bedding at sett entrances (this includes grass and leaves)
 - Scratching posts on shrubs and trees close to a sett entrance
 - The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip
 - Dung pit latrines and footprints
 - Habitual runs through vegetation and beneath fences
 - Hedgehog carcasses

4.3 Bats

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

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

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

4.3.3 The potential value of the survey area for foraging bats was assessed through consideration of two main factors: professional knowledge of bat ecology and foraging behaviour in combination with the geographical location, topography and habitats present within the survey area and surrounds.

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'. All birds displaying breeding behaviour were recorded.

4.5 Brown Hare

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

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

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

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

4.6 *Reptiles*

- 4.6.1 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.
- 4.6.2 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.
- 4.6.3 Reptile surveys comprising a visual encounter survey were undertaken. Habitat at the site was not considered sufficiently suitable for a full presence/ absence survey to be warranted.

4.7 *Survey limitations*

- 4.7.1 The survey was undertaken in spring. At this time of year plant species are less easily identified and the activity of some species is reduced.
- 4.7.2 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.
- 4.7.3 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.
- 4.7.4 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 There site does not lie within or adjacent any mapped BAP habitat, Figure 3.
- 5.1.3 The nearest statutory protected site is Clitheroe Knoll Reefs 500m to the North-east. The nearest non-statutory protected site is A59 Road Cutting BHS to the South. There is no direct linkage between these sites and the development area, Figure 4.



- Boundary
- Mammals
- Bats
- Birds
- Amphibians

Figure 2
Protected and
Notable Species



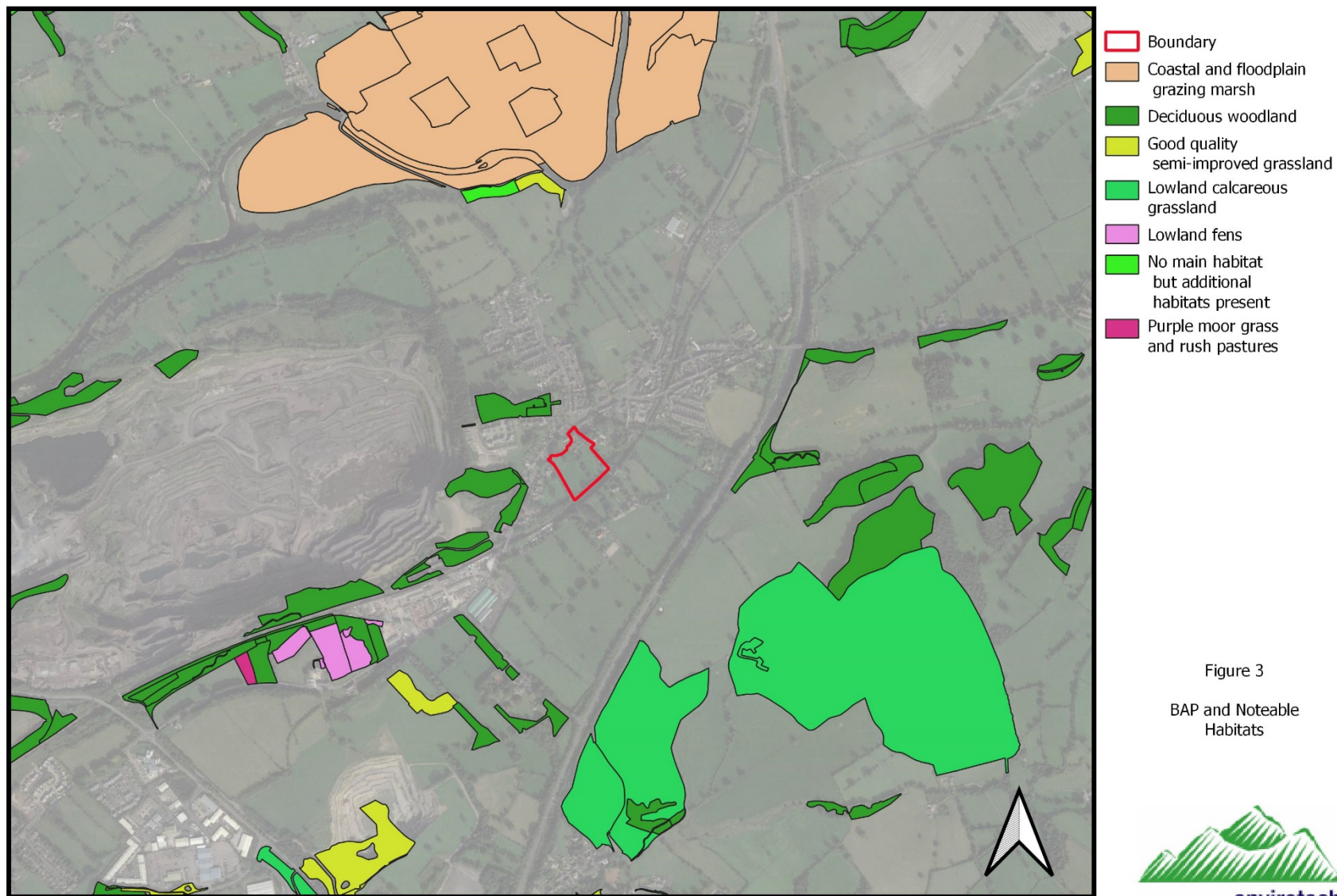
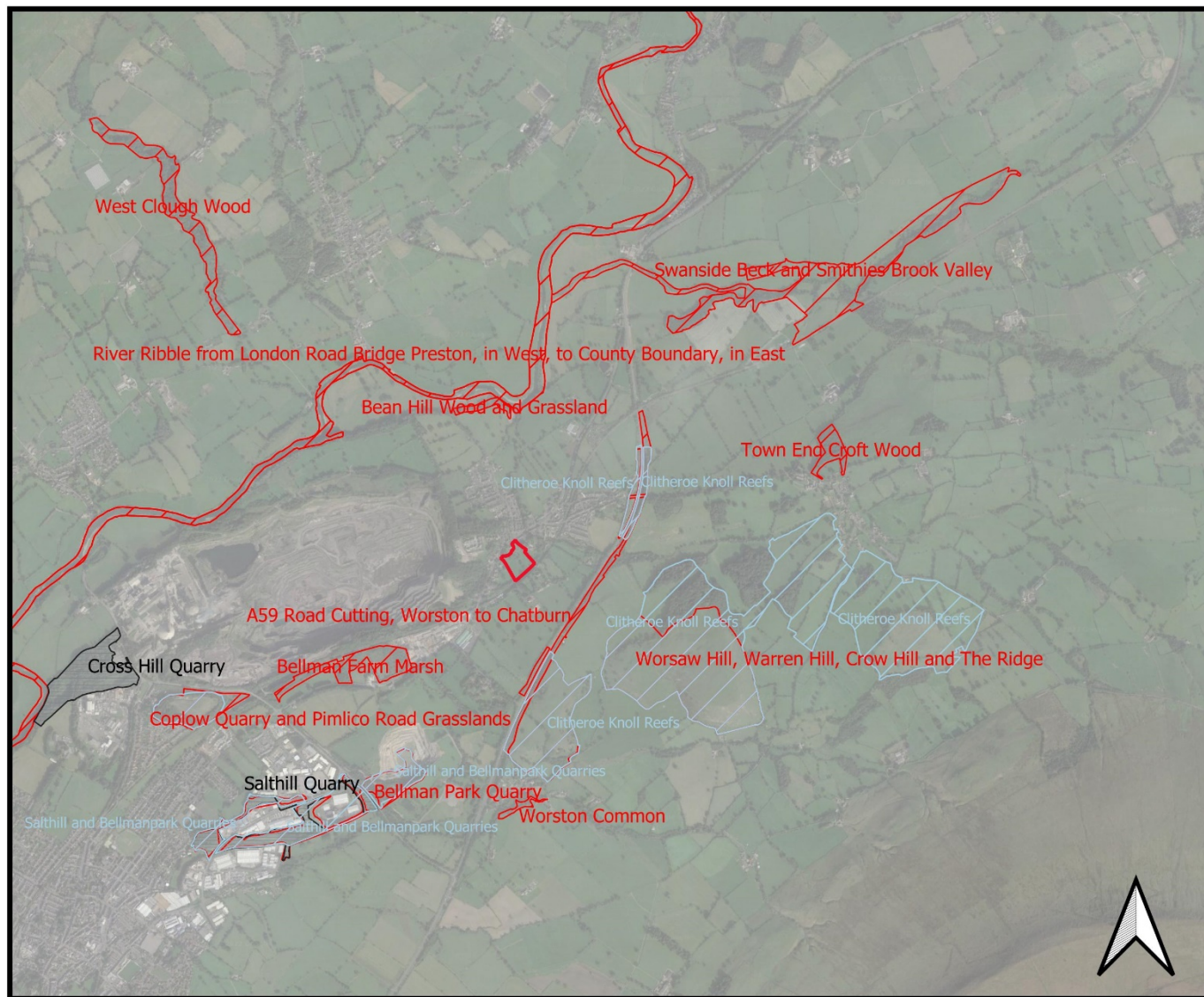


Figure 3

BAP and Noteable
Habitats





- Boundary
- SSSI
- Local Nature Reserves
- BHS

Figure 4
Protected Sites



6. PHASE 1 SURVEY RESULTS

6.1 *Habitat Results*

- 6.1.1 A drone was flown over the site and 4K imagery used to create a base plan onto which habitats have been mapped. This provides up to date imagery for habitat mapping. The drone image is overlain to Google earth for areas outside the site boundary.
- 6.1.2 The site comprises poor semi-improved grassland with garden, a few mature trees and hedges on its boundary. There is the trainline on the South boundary and residential houses to the East. The site is enclosed by other houses and access roads to the village and residential areas.
- 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	Main building	The former residential dwelling now derelict this building is to be renovated.
TN2	Dairy buildings	An old dairy barn and adjoining buildings which are to be re-developed in to residential units.
TN3	Green house and outbuildings	An old green house, coal store and other outbuildings. These are to be demolished in order to construct new houses.
TN4	Barn and outbuildings	An airy, open barn and some small outbuildings. These are also to be demolished.
TN5	Neighbouring residence	This house belongs to the neighbour and despite its close proximity to the site is to remain unaffected by the proposed works.
TN6	Neighbour's outbuildings	These buildings belong to the neighbour and despite their close proximity to the site are to remain unaffected by the proposed works.
TN7	Other neighbouring properties	These buildings belong to the neighbours and despite their close proximity to the site are to remain unaffected by the proposed works.
TN8	Garden area	This area is heavily cultivated with both native and non-native plants. There are areas that are grassier and closer cropped and flower bed areas with plants and shrubs. The native species include: Cowslip (<i>Primula veris</i>), Daisy (<i>Bellis perennis</i>), Dog Rose (<i>Rosa Canina</i>), Dog violet (<i>Viola riviniana</i>), Dog Wood (<i>Cornus alba</i>), Daffodil (<i>Narcissus pseudonarcissus</i>), Jack by the hedge (<i>Alliaria petiolate</i>), Primrose (<i>Primula vulgaris</i>), English ivy (<i>Hedera helix</i>), Board leaved dock (<i>Rumex obtusifolius</i>), Brambles (<i>Rubus fruticosus</i>), Cleavers (<i>Galium aparine</i>), Dandelion (<i>Taraxacum officinale</i>), Bluebell (<i>Hyacinthoides non-scripta</i>) and Cuckoo Flower (<i>Cardamine pratensis</i>).
TN9	Hardstanding road	There is an area of hard standing road next to the property as well as a Criss cross series of paths in to the garden area and on to the pavement outside the front of the house.
TN10	Hardstanding road	This is a hard standing road bordering the boundary of site. This road is to be developed in to an access road for further dwellings. A newly planted hedge bounds the road.
TN11	Railway line	The trainline to the South borders the site.

TN12	Bare ground	The access road continues from TN9 to an area of bare ground around the back of the property.
TN13	Poor semi-improved grassland	This area seems to have previously been used as pasture. It includes species such as: Yorkshire fog (<i>Holcus lanatus</i>), Timothy grass (<i>Phleum pratense</i>), Perennial rye-grass (<i>Lolium perenne</i>), Cocks foot (<i>Dactylis glomerata</i>), Annual meadow grass (<i>Poa annua</i>) Lesser celandine (<i>Ficaria verna</i>) and Nettles (<i>Urtica dioica</i>).
TN14	Poor semi-improved grassland	This area has the same species present as TN13. It's an extension of the pasture land adjacent and the species present reflect this.
TN15	Old orchard	Despite there being evidence of this area previously being use as an orchard it is no longer maintained and therefore the trees are very sparse. It has been grazed heavily. On the ground the same species are present as TN13 and TN14. With the addition of Crab Apple (<i>Malus sylvestris</i>).
TN16	Hedge with mature trees	A hedgerow that includes some of the species listed above along with a selection of the following woody species: Pedunculate Oak (<i>Quercus robur</i>), Common Hawthorn (<i>Crataegus monogyna</i>), Common Hazel (<i>Corylus avellana</i>), Wild Cherry (<i>Prunus avium</i>) and Sycamore (<i>Acer pseudoplatanus</i>).
TN17	Hedge that borders with neighbouring property	This hedge is more of a mixture of native and non-native species. The hedge is made up primarily form Haworth with a few mature trees. Other native species include: Common Dogwood (<i>Cornus sanguinea</i>), European Holly (<i>Ilex aquifolium</i>), European Beech (<i>Fagus sylvatica</i>), Lords and ladies (<i>Arum alpinum</i>) and Common Comfrey (<i>Symphytum officinale</i>).
TN18	Scrub area	This dense scrub area borders the railway line. It is overgrown with brambles, nettles and similar tall ruderals mentioned above. Notably there are an abundance of Common Ash (<i>Fraxinus excelsior</i>) saplings in this area.
TN19	Front garden area	A close-cropped grassy area. Very similar species TN8 with a few non-native species planted. Grass was too short to identify but is assumed to be similar to TN13.
TN20, TN21, TN22 and TN23	Other garden areas	All these areas are outside of the proposed development area however they share a similar mixture of close-cropped grass with a few non-native garden species planted. Nothing of note was found in any of these areas and the species found were common across the site.
TN24	Garden area	This garden area could not be fully assessed as it is outside of the site boundary and there was no access. It is assumed that this area would support much the same species as the other gardens with perhaps a greater concentration of woody species. This area is to remain unaffected by the proposed works.

Table 1 Details of Target Notes.



- Boundary
- Target Note
- Building
- Bare Ground
- Hardstanding
- Other Habitat
- Cultivated/Disturbed Land - Amenity Grassland
- Cultivated/Disturbed Land - Ephemeral/short perennial
- Poor Semi-Improved Grassland
- Intact Hedge - Species-poor
- ||||| Hedge and Trees - Species-poor

Figure 6

Phase 1 Habitat Survey





The main dwelling that the proposed development is centred around.



The dairy barns which are also to be developed.



An old orchard sits to the West of the site, trees are poor and the grassland short grazed



The remainder of the site is predominantly poor semi improved grassland bound by gappy hedges containing mature trees



Trees to the hedgelines are subject to damage from livestock grazing



Hedges are gappy and subject to livestock damage



Scrub to railway embankment

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 intact hedges bounding the site to the East 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 Defunct species poor hedgerows in the centre of the site also have a low ecological value. They have no understory and have been significantly impacted by livestock grazing. Should these need to be lost, transplanting them is unlikely to be of ecological benefit. New shrub/ scrub planting would be suitable compensation for their loss. With the exception of the mature trees which should be retained if possible.
- 6.2.5 None of the hedgerows are classified as important under the Hedgerow Regulations (1997) as none have the required number of woody species per 30m length.
- 6.2.6 Trees within the site boundary comprise small hawthorn trees within the defunct hedge lines along with occasional mature ash and oak. These mature trees should be retained if possible.
- 6.2.7 There is no evidence of Japanese knotweed, giant hogweed or Himalayan balsam on the site. No other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) was identified within the site or adjacent land.

6.3 Amphibian

- 6.3.1 There are records for amphibians within 2km of the site. There are no records of great crested newt in the local area, though there are records for smooth and palmate newts.
- 6.3.2 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.
- 6.3.3 Structural diversity at ground level across the site is very poor. There are no areas with log, rubble piles or compost heaps which would be particularly favourable to amphibians.
- 6.3.4 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.

6.4 Badger

- 6.4.1 Six 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.

6.5 Bats

- 6.5.1 There are twenty-seven records of four species of bat within 2km of the site.
- 6.5.2 The foraging habitat at the site is low quality for bat species being open and exposed grassland. The poor semi-improved grassland offers low foraging opportunities for bats. The hedge and tree lines are poor in terms of their structure, diversity and interconnectivity when compared with the wider landscape.
- 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. The railway line and scrub embankments provide a strong linear, high quality foraging area to the site boundary.
- 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 around the site perimeter were also assessed in accordance with Collins ed. (2016) and assigned a risk category. Most of the trees on site were category 2 (low) or category 3 (negligible) risk (Figure 8). No indications of roosting or highly suitable roost sites were located within the trees. All of the trees could be adequately inspected.
- 6.5.6 We consider bat species are likely to rely on the site for feeding but may occur in the local area. The buildings have been surveyed separately.

6.6 Birds

- 6.6.1 There are 293 records of birds within 2km of the site.
- 6.6.2 The intact hedgerow to the East and South of the site offer 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 The gappy defunct hedges within the site have insufficient density to be of high value to nesting birds.

- 6.6.4 There were no rot holes or cracks in the trees within the site boundary which would support tree hole nesting species such as woodpeckers.
- 6.6.5 Potential nest sites were located within the core development (the dairy barn) but the surveys were undertaken at a time of year when nesting was just beginning. A risk assessment of the site in respect of its future potential for and value to nesting birds could however be adequately made. Details of the buildings can be found in the relevant report.
- 6.6.6 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. A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.

6.7 *Brown Hare*

- 6.7.1 Brown hare are a UK BAP priority species. There are ten 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 *Reptiles*

- 6.8.1 There are no records for reptiles within 2km of the site.
- 6.8.2 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.
- 6.8.3 Reptiles may occur along the boundary of the site and this provides linkage across the local landscape. It is however outside the site boundary and is unaffected by the proposal.
- 6.8.4 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.

6.9 *Statutory and Non-Statutory Sites*

Direct Impacts:

- 6.9.1 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.

6.9.2 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:

6.9.3 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.
- 7.1.4 If the defunct species poor hedges are removed, transplantation of them is not considered to be of significant ecological benefit as there are no notable species assemblages associated with them, replanting of linear lines of trees/ shrubs would be more beneficial.

7.2 *Amphibians*

- 7.2.1 There is no requirement for specific mitigation for these species. There are currently no suitable breeding sites on or near the site. However, as a precautionary measure, in the unlikely event that any signs of any amphibian activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.
- 7.2.2 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 also be followed.
 - All work must take place during daylight hours as amphibians are more likely to be commuting over night and this will ensure the risk to any amphibians commuting through the site will be minimised.
 - During the development, measures should be put in place to discourage amphibians from using the development area, the creation of any piles of earth, materials and rubble which could form potential artificial hibernacula and refuge should be avoided at all times. It is recommended that any spoil or rubble will be removed immediately to skips, or on hard standing or short grass. This will ensure that no potential amphibian hibernation or resting sites are created.

- The storage of all loose materials must be palletised or similar so they are off the ground whenever possible.
- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure amphibians are not trapped during work.
- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

7.3 Badger

7.3.1 Badger setts are known to occur within 2km of the site. These setts will be undisturbed by work but in order to minimise impacts on badgers passing over the site the following points should also be followed.

- All work must take place during daylight hours as badgers are more likely to be commuting over the site at night and this will ensure the risk to any badgers passing through the site will be minimised.
- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure badgers are not trapped during work.
- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.
- Boundary fences/walls should incorporate gaps at their base to facilitate the passage of badgers across the site.

7.4 Bats

7.4.1 Work at night should be restricted, new planting within the site should enhance structural diversity and light spill onto the boundary should be minimised.

7.4.2 New roosting provision for crevice dwelling bats could be incorporated into the buildings on site or bat boxes could be erected in retained trees.

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

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 *Reptiles*

- 7.7.1 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.
- 7.7.2 The points in respect of not leaving open trenches with means of escape detailed for badgers are also applicable to this species.

8. REFERENCES

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