

Ecological Consultants Environmental and Rural Chartered Surveyors

# **Ecological Appraisal**

# NEDDY LANE, BILLINGTON



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#### ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

If in doubt, stop work and seek further professional advice.

#### Quality and Environmental Assurance

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# 1. EXECUTIVE SUMMARY

- 1.1.1 Envirotech NW Ltd were commissioned in September 2020 by Redrow Homes Limited to carry out an ecological appraisal of land at Neddy Lane, Billington. Lancashire. 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 13<sup>th</sup> October 2020. The site had previously been visited by Envirotech NW Ltd on 15<sup>th</sup> August 2017 and 13<sup>th</sup> June 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. Domestic gardens and sympathetically landscaped open space is considered to offer habitat of equal or greater ecological value.
- **1.1.5** The hedgerows on site re not considered important under the Hedgerow Regulations (1997).
- **1.1.6** Birds are likely to utilise the defunct hedge on site 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 August 2017 Envirotech NW Ltd were commissioned by Redrow Homes Ltd to carry out an Ecological Appraisal of land at Neddy Lane, Lancashire, central grid reference SD 725 359 (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.



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.
- **3.1.4** Previous site surveys for the site were reviewed.

#### 3.2 Vegetation and Habitats

- **3.2.1** A vegetation and habitat map was produced for the site and the immediate surrounding area. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC 2003).
- **3.2.2** Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act (1981) and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (1991).
- **3.2.3** Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act (1981), namely Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) on terrestrial habitat and aquatic species such as floating pennywort (*Hydrocotyle ranunculoides*), water hyacinth (*Eichhornia crassipes*) and New Zealand pygmyweed (*Crassula helmsii*).
- **3.2.4** The survey was also informed by questioning the landowner/site agent to ascertain the recent history of the site.

#### 3.3 Timing and Personnel

- **3.3.1** The site and surrounding land was visited on the 13<sup>th</sup> October 2020. Part of the site had previously been surveyed in 2016 and 2017
- **3.3.2** During the visit, weather conditions were suitable for the survey types undertaken. The 2020 survey was undertaken by
  - 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

## 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.
- **4.1.5** There are no bodies of standing water within 250m of the site which could be identified on OS mapping or aerial photography, and so no further assessments were warranted.

#### 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) 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 were assessed in accordance with Collins, J. (ed) (2016) for their potential to support roosting or hibernating bats. This comprised a close inspection of all trees and an assessment of their potential to be used by bats made by a licensed surveyor.

# 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** 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** Surveys at the site have been undertaken over a number of years and as survey results remain similar, it is considered the level of use of the site by species targeted for survey has been determined.
- **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** There are several non-statutory designated sites within 2km, the nearest being c.750m away (Figure 3).
- **5.1.3** There are no statutory designated sites within 2km, the nearest being Cock Wood Gorge Site of Special Scientific Interest, c.2500m to the South-east (Figure 4).



Figure 2 Notable species records; site location 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 poor semi-improved grassland with fences and hedges on its boundary. It also incorporates a former small area of allotment to the North-east which contains a dilapidated wooden shed and bare ground.
- 6.1.2 The site abuts new houses to the East and open grassland to all other sides.
- **6.1.3** 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 site contains a parcels of rank grassland. It is composed of perennial rye grass ( <i>Lolium perenne</i> ), rough meadow grass ( <i>Poa trivialis</i> ), Yorkshire fog ( <i>Holcus lanatus</i> ), meadow foxtail ( <i>Alopecorus pratensis</i> ), Timothy grass ( <i>Phleum pratense</i> ), bent ( <i>Agrostis</i> sp.), cock's foot ( <i>Dactylis glomerata</i> ) and sweet vernal grass ( <i>Anthoxanthum odoratum</i> ), with curled dock ( <i>Rumex crispus</i> ), sorrel ( <i>R. acetosa</i> ), meadow buttercup ( <i>Ranunculus repens</i> ), red clover ( <i>Trifolium pratense</i> ), chickweed ( <i>Stellaria media</i> ), bindweed ( <i>Convolvulvus arvensis</i> ), creeping thistle ( <i>Cirsium arvense</i> ) and horsetails ( <i>Equisetum</i> sp.).	
BTN2	Improved grassland	An open field of recently re-seeded grass dominated by what appears to be Perennial Ryegrass (Lolium perenne). Field-speedwell (Veronica persica) is occasional	
BTN3	Buildings	A dilapidated timber shed stands in an area of open bare ground	
BTN4	Buildings	In the Southern area of the site is a brick substation.	
BTN5	Intact hedge - species poor	The Western site boundary is marked by a hedgerow which is gappy and would not be stock proof were it not for a post and wire fence along its base. The hedge is predominantly hawthorn with occasional blackthorn ( <i>Prunus spinosa</i> ), elder, hazel and oak ( <i>Quercus</i> sp.).	
BTN6	Intact hedge - species poor	The South-east boundary also contains a species poor hedgerow which is composed of hawthorn, hazel, cherry ( <i>Prunus</i> sp.), blackthorn and ash ( <i>Fraxinus excelsior</i> ) with occasional oak and rose ( <i>Rosa</i> sp.).	
BTN7	Dry ditch	A dry ditch to the West boundary where the hedge becomes a line of scattered scrub. Reed canary grass ( <i>Phalaris arundinacea</i> ) and Red shank ( <i>Persicaria maculosa</i> )	
BTN8	Bare ground	Bare ground with no vegetation associated with it.	
FTN1	Bats	None of the small buildings on site are of anything greater than negligible potential to be used by bats.	
FTN2	Birds	The hedges on site are likely to be of value to feeding and nesting birds.	
Table 1 Details of Botanical and Faunal Target Notes			









# 6.2 Vegetation

- 6.2.1 Details of the plant species found on site are included in the target notes. Species recorded are all commonly occurring and undoubtedly occur elsewhere in similar habitats in the local area.
- **6.2.2** The improved and poor semi-improved grassland has a very low species diversity and ecological value. These habitats do not constitute a BAP habitat.
- 6.2.3 Bare ground to the East has very limited ecological value.
- 6.2.4 The intact hedges are all 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.
- 6.2.5 The hedgerows are not classified as important under the Hedgerow Regulations (1997).
- **6.2.6** Trees within the site boundary comprise small oak within the hedge line to the West. These trees do not form woodland but should be retained in any proposed scheme or where they are removed new tree planting should be undertaken. Cut wood from felled trees should be stacked on the site boundaries where it can decay naturally and provide habitat for invertebrates.
- **6.2.7** 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 385 records for amphibians within 2km of the site, comprising records of great crested newt, smooth newt (*Lissotriton vulgaris*), palmate newt (*L. helveticus*), common frog (*Rana temporaria*) and common toad (*Bufo bufo*).
- **6.3.2** There is no standing water on site, or within 250m which can be identified on OS mapping or aerial photography.
- **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** The site is also isolated from any bodies of standing water, with major public highways, a railway line, a river and dense urban mosaic all presenting significant barriers to the dispersal of amphibians which would prevent their ingress onto the site.

# 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. The landscaping scheme should also include species such as Apple or other fruit trees which would provide a food source in winter.
- 6.4.5 The design of fences/walls should be considerate to the passage of badgers.

#### 6.5 Bats

- 6.5.1 There are seven 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 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 grassland. 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 residential gardens adjacent and the River Calder to the North and East 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 or their loss is compensated for in any landscaping scheme.
- **6.5.5** Trees around the site perimeter were also assessed in accordance with Collins ed. (2016) and assigned a risk category. All of the trees on site were category 3 (negligible risk). No indications of roosting or highly suitable roost sites were located within the trees. All of the trees could be adequately inspected. Risk categories from Hundt (2012) and the requirement for mitigation for each tree category are shown on Figure 7.
- **6.5.6** There is one dilapidated wooden shed to the East, and a brick substation in the Southern area of the site. These were all inspected and found to offer negligible potential for use by roosting bats. No droppings or other indications of use could be found.
- 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.



Tree category and description	Stage 1 Initial survey requirements	Stage 2 Further measures to inform proposed mitigation	Stage 3 Likely mitigation
Known or confirmed roost	Follow SNCO guidance and these guidelines wherever possible, to establish the extent to which bats use the site. This is particularly important for roosts of high risk species and/or roosts of district or higher importance and above		The tree can be felled only under EPS licence following the installation of equivalent habitats as a replacement.
Category 1* Trees with multiple, highly suitable features capable of supporting larger roosts	Tree identified on a map and on the ground. Further assessment to provide a best expert judgement on the likely use of the roost, numbers and species of bat, by analysis of droppings or other field evidence. <i>A consultant ecologist is</i> <i>required</i>	Avoid disturbance to trees, where possible. Further dusk and pre-dawn survey to establish more accurately the presence, species, numbers of bats present and the type of roost, and to inform the requirements for mitigation if felling is required.	Felling would be undertaken taking reasonable avoidance measures <sup>3</sup> such as 'soft felling' to minimise the risk of harm to individual bats.
<b>Category 1</b> 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 7	Tree risk categories from Hundt (	(2012)
J		

# 6.7 Birds

- 6.7.1 There are numerous records of birds within 2km of the site.
- **6.7.2** 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.
- 6.7.3 There were no rot holes or cracks in the trees within the site boundary which would support tree hole dwelling species such as woodpeckers.
- 6.7.4 A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.
- 6.7.5 The habitat on site is not considered to be of anything more than of local significance, habitats present are well represented in the local area. The impact on nesting birds is therefore considered likely to be minor.
- **6.7.6** Precautionary mitigation would be appropriate in respect of construction activities and compensation for lost nesting and foraging opportunities will be required.

## 6.8 Brown Hare

- 6.8.1 Brown hare are a UK BAP priority species. There are eight records of brown hares within 2km of the site.
- 6.8.2 No indication of brown hares was recorded on the site.
- **6.8.3** The site boundary has some potential for brown hares to create forms but use of the site is likely to be limited due to its open and exposed nature and regular human presence.
- **6.8.4** A risk assessment of the site in respect of its future potential for and value to brown hares could be adequately made. We consider the risk to brown hares is very low.

#### 6.9 Invertebrates

- 6.9.1 Notable invertebrates have been recorded within 2km of the site.
- **6.9.2** No deadwood or vegetation on site was recorded which would provide an important resource for invertebrates in the local area.
- 6.9.3 Trees on the site boundaries contain comparatively little rotten wood in their canopies.
- 6.9.4 Semi-Improved pasture has some value to species such as common butterflies but this is not considered to be locally significant.

- 6.9.5 Given the poor quality habitats contained within the site in comparison to the wider area, it is not considered that this site is of any local significance for invertebrates.
- 6.9.6 Impacts on the species are considered likely to be negligible; post development domestic gardens will create greater habitat diversity in the area than already exists.

# 6.10 Reptiles

- 6.10.1 There are no records for reptiles within 2km of the site.
- 6.10.2 No indication of reptiles was recorded at the site.
- 6.10.3 The majority of the site has a very low value to reptiles being devoid of significant ground cover. There are no areas of the core development area which would be particularly favourable to reptiles.
- 6.10.4 No specific mitigation for these species is considered necessary.

# 6.11 Other

- 6.11.1 The boundary hedgerows are species poor and provide little potential for use by hedgehog (*Erinaceus europaeus*). Fragmentation of habitat locally and existing land use do not provide optimal conditions for the free passage of this species across the site and slugs and snails are likely to occur only at very low numbers.
- 6.11.2 The site may be crossed by species such as fox (*Vulpes vulpes*) and rabbit (*Oryctolagus cuniculus*) are known to occur locally.
- 6.11.3 The boundary hedgerows may provide suitable habitat for small mammals such as field vole (*Microtus agrestis*) but these areas are small and the sites value to small mammals is limited.

#### 6.12 Statutory and Non-Statutory Sites

#### Direct Impacts:

- 6.12.1 There are no statutory or non-statutory sites which are connected to the site such that site development would directly affect the dispersal of species between them or directly impact upon their integrity.
- 6.12.2 The habitats on site do not represent or are linked to those found in any of the statutory or non-statutory sites locally.

#### Indirect Impacts:

6.12.3 There are no statutory or non-statutory sites which are connected to the site such that site development would indirectly affect the dispersal of species between them or indirectly impact upon their integrity.

# 7. MITIGATION/RECOMMENDATIONS

#### 7.1 Compensatory planting and habitat enhancement

- 7.1.1 The 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 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.
- 7.1.3 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 be observed;
  - All work must take place during daylight hours as amphibians are more likely to be commuting over night and this will ensure the risk to any amphibians commuting through the site will be minimised.
  - During the development, measures should be put in place to discourage amphibians from using the development area, the creation of any piles of earth, materials and rubble which could form potential artificial hibernacula and refuge should be avoided at all times. It is recommended that any spoil or rubble will be removed immediately to skips, or on hard standing or short grass. This will ensure that no potential amphibian hibernation or resting sites are created.
  - The storage of all loose materials must be palletised or similar so they are off the ground whenever possible.

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

# 7.3 Badger

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

# 7.4 Bats

- 7.4.1 Work at night should be restricted, new planting within the site should enhance structural diversity and light spill onto the boundary should be minimised.
- 7.4.2 New roosting provision for crevice dwelling bats could be incorporated into the buildings on site or bat boxes could be erected in retained trees.
- 7.4.3 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 8b Proposed site plans

## 8. CONCLUSION

- **8.1.1** Ecological surveys, site appraisals and impact assessments were carried out with respect to land comprising open ground at Neddy Lane, Billington, Lancashire. It is proposed new houses 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.
- **8.1.4** Landscaping will promote structural diversity 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.

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