



envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Preliminary Ecological Appraisal
Land at Brickhouse Farm Cottages,
Hambleton



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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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Contents

1. EXECUTIVE SUMMARY.....	5
2. INTRODUCTION.....	6
2.1 Background.....	6
2.2 Objectives.....	7
3. METHODOLOGY AND SOURCES OF INFORMATION.....	8
3.1 Data Search.....	8
3.2 Vegetation and Habitats.....	8
3.3 Timing and Personnel.....	8
4. SPECIES SURVEY METHODOLOGY.....	10
4.1 Amphibian.....	10
4.2 Badger.....	10
4.3 Bats.....	11
4.4 Birds.....	11
4.5 Brown Hare.....	11
4.6 Invertebrates.....	12
4.7 Otter.....	12
4.8 Reptiles.....	12
4.9 Water Vole.....	13
4.10 Survey limitations.....	13
5. RESULTS.....	14
5.1 Data Search.....	14
6. PHASE 1 SURVEY RESULTS.....	18
6.1 Habitat Results.....	18
6.2 Vegetation.....	30
6.3 Amphibian.....	31
6.4 Badger.....	34
6.5 Bats.....	34
6.7 Birds.....	38
6.8 Brown Hare.....	38
6.9 Invertebrates.....	38
6.10 Otter.....	39
6.11 Reptiles.....	39
6.12 Water vole.....	39
6.13 Other.....	40
6.14 Statutory and Non-Statutory Sites.....	40
7. MITIGATION/RECOMMENDATIONS.....	41
7.1 Compensatory planting and habitat enhancement.....	41
7.2 Amphibians.....	41

7.3	Badger.....	42
7.4	Bats.....	42
7.5	Birds.....	43
7.6	Brown Hares.....	44
7.7	Invertebrates.....	44
7.8	Otter.....	44
7.9	Reptiles.....	45
7.10	Water vole.....	45
8.	CONCLUSION.....	47
9.	REFERENCES.....	48
10.	APPENDIX.....	49

1. EXECUTIVE SUMMARY

- 1.1.1 Envirotech NW Ltd were commissioned in September 2023 to carry out a Preliminary Ecological Appraisal of land at Brickhouse Farm Cottages, Hambleton. It is proposed that a new agricultural building, storage building, car park extension and play areas 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 3rd October 2023. 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. The tall ruderal vegetation is considered to be of moderate ecological value. Retention of this habitat and sympathetically landscaped open space is considered to offer habitat of equal or greater ecological value.
- 1.1.5 Trees and hedgerows at the site should be retained as far as possible.
- 1.1.6 None of the hedgerows around the site perimeter were considered important under the Hedgerow Regulations (1997).
- 1.1.7 Low numbers of common bat species may forage over the site. Bats are not considered likely to roost on the site. It is proposed that some roosting provision for bats will however be incorporated into the new buildings on site.
- 1.1.8 Birds are likely to utilise hedges and trees on site for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period. Nest sites for swallow should be incorporated into the new buildings, and nestboxes for other species erected around the site.
- 1.1.9 If Pond 2 is to be restored, an EDNA test to confirm absence of great crested newt is recommended during the period April 15th - June 30th.
- 1.1.10 No other notable or protected species were recorded on the site.

2. INTRODUCTION

2.1 Background

2.1.1 In September 2023 Envirotech NW Ltd were commissioned to carry out a Preliminary Ecological Appraisal of land at Brickhouse Farm Cottages, Hambleton, central grid reference SD 3678 4328 (Figure 1). A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.

2.1.2 The survey was requested in connection with the proposed construction of a new agricultural building, storage building, car park and play area. It is also possible that a track may be built to a nearby pond and the pond restored/improved.



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 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 Due to the scale of development, in accordance with CIEEM guidelines, a data search of the county records centre was not required. The likely presence and impact on protected species could be adequately determined from the level of data search undertaken.

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 Habitats of Principal Importance (HPI) were cross referenced with Natural England's inventory against the site boundary and where found ground truthed.

3.3 *Timing and Personnel*

- 3.3.1 During the visit, weather conditions were suitable for the survey types undertaken being mild and dry in autumn.
- 3.3.2 The site and surrounding land was visited on the 3rd October 2023 by
 - (FW) Miss Flora Whitehead BSc (Hons)
Natural England Bat Class Licence (Level 2)

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 Water-bodies located within or adjacent to the study area were identified and where access was possible were assessed for their potential to support great crested newts.
- 4.1.3 The criteria used in the assessment are based on those contained in the Herpetofauna Workers Manual and Oldham et al, 2000, and in applying these criteria a precautionary approach was adopted. Following the criteria developed by Oldham et al (2000), the HSI tool developed for use with great crested newts and forming part of Natural England's Licensing process was used to determine the suitability of ponds for great crested newts.
- 4.1.4 The pond assessment was undertaken in order to determine which water-bodies, based on their potential to support great crested newts, should be subject to presence/absence surveys.

4.2 Badger

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

- Dung pit latrines and footprints
- Habitual runs through vegetation and beneath fences
- Hedgehog 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 Species of Principal Importance (SPI).

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 SPI.
- 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 SPI would be likely to be affected by the proposal.

4.7 Otter

- 4.7.1 Otters (*Lutra lutra*) are given protection by the Wildlife and Countryside Act (1981) as amended and Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

This protection means that it is an offence to deliberately or recklessly:

- Kill or injure otters;
- Destroy, damage or obstruct their dens, and
- Disturb them whilst in the den.

- 4.7.2 Watercourses were assessed for their suitability and for the presence of otters within 10m of the banks. The banks and scrub vegetation were carefully searched for spraints, feeding remains, runs, prints and couches/holts.

4.8 Reptiles

- 4.8.1 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.
- 4.8.2 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.

- 4.8.3 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.

4.9 Water Vole

- 4.9.1 Water voles (*Arvicola amphibious*) and their habitat are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981). This provides protection from killing or taking by certain prohibited methods and their breeding and resting places are fully protected from destruction or obstruction, it is also an offence to disturb them in these places.
- 4.9.2 There is a stream on part of the west boundary of the site. This watercourse was surveyed and assessed for evidence of the presence of water vole.
- 4.9.3 This involved intensive searches by wading upstream where possible, and observing from the banks where not; looking for burrows and other signs including footprints, droppings and chewed vegetation. This was undertaken up to 5m from the water course.

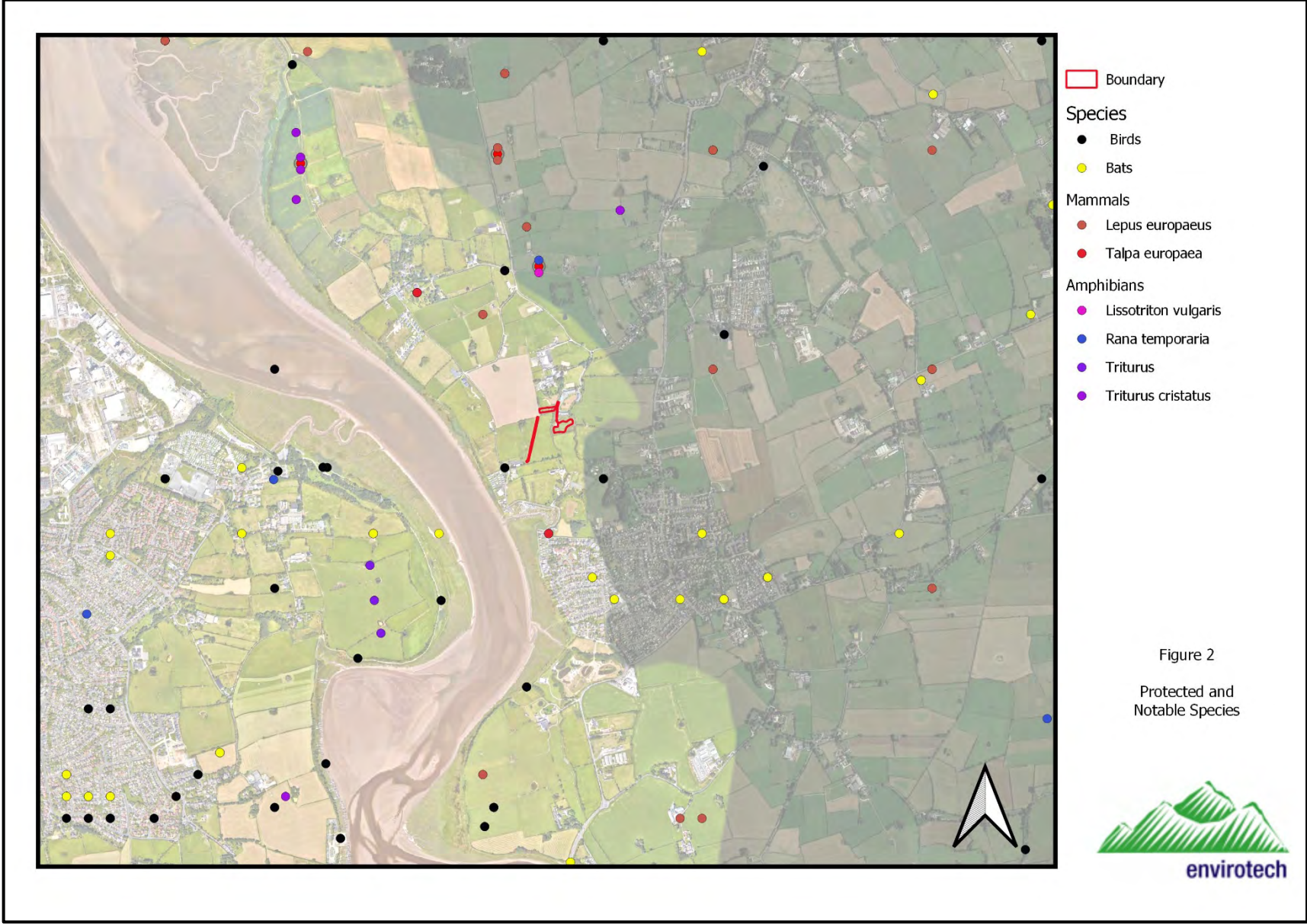
4.10 Survey limitations

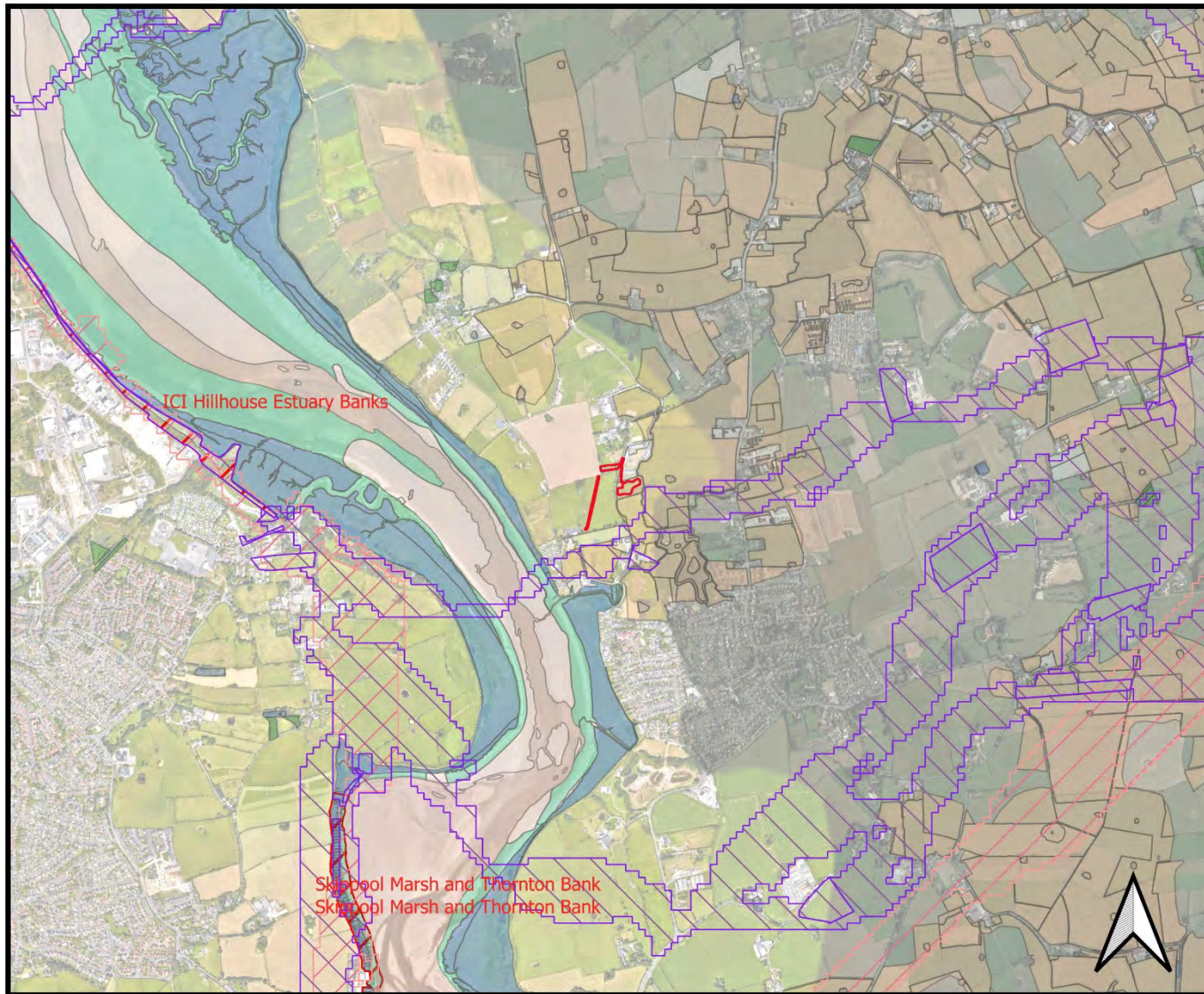
- 4.10.1 The survey was undertaken in autumn. At this time of year plant species are less easily identified and the activity of some species is reduced.
- 4.10.2 Due to the habitats present on site there were no significant constraints in respect of identifying the botanical interest of the site. Bats were active at the time of the survey.
- 4.10.3 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.
- 4.10.4 No significant survey limitations were encountered.

5. RESULTS

5.1 *Data Search*

- 5.1.1 Envirotech holds 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 protected sites are the Lancashire Grassland Ecological network which runs to the south, with aim of connecting grassland habitats in the county. Along the River Wyre estuary, approx. 250m to the west at the nearest, are areas of priority habitat comprising coastal and floodplain grazing marsh, coastal saltmarsh and mudflats (Figure 3). There is farmland between the site and the R, Wyre. ICI Hillhouse Estuary Banks and Skippool Marsh and Thornton Bank Biological Heritage Sites lie on the opposite side of the estuary.
- 5.1.3 The site lies within a Pink-footed Goose Major Feeding Area. There is a Whooper Swan Major Feeding Area approx. 650m to the north at the nearest. The Wyre Estuary is covered by The Wyre Estuary SSSI, Morecambe Bay and Duddon Estuary SPA and Morecambe Ramsar designations. Much of the coastal area is also a Pink-footed Goose Major Roost. The estuary is also within a Marine Conservation Zone. These designations are related to the range of valuable coastal flora and fauna that the estuary supports, particularly the assemblages of wading and overwintering birds. See Figure 4.



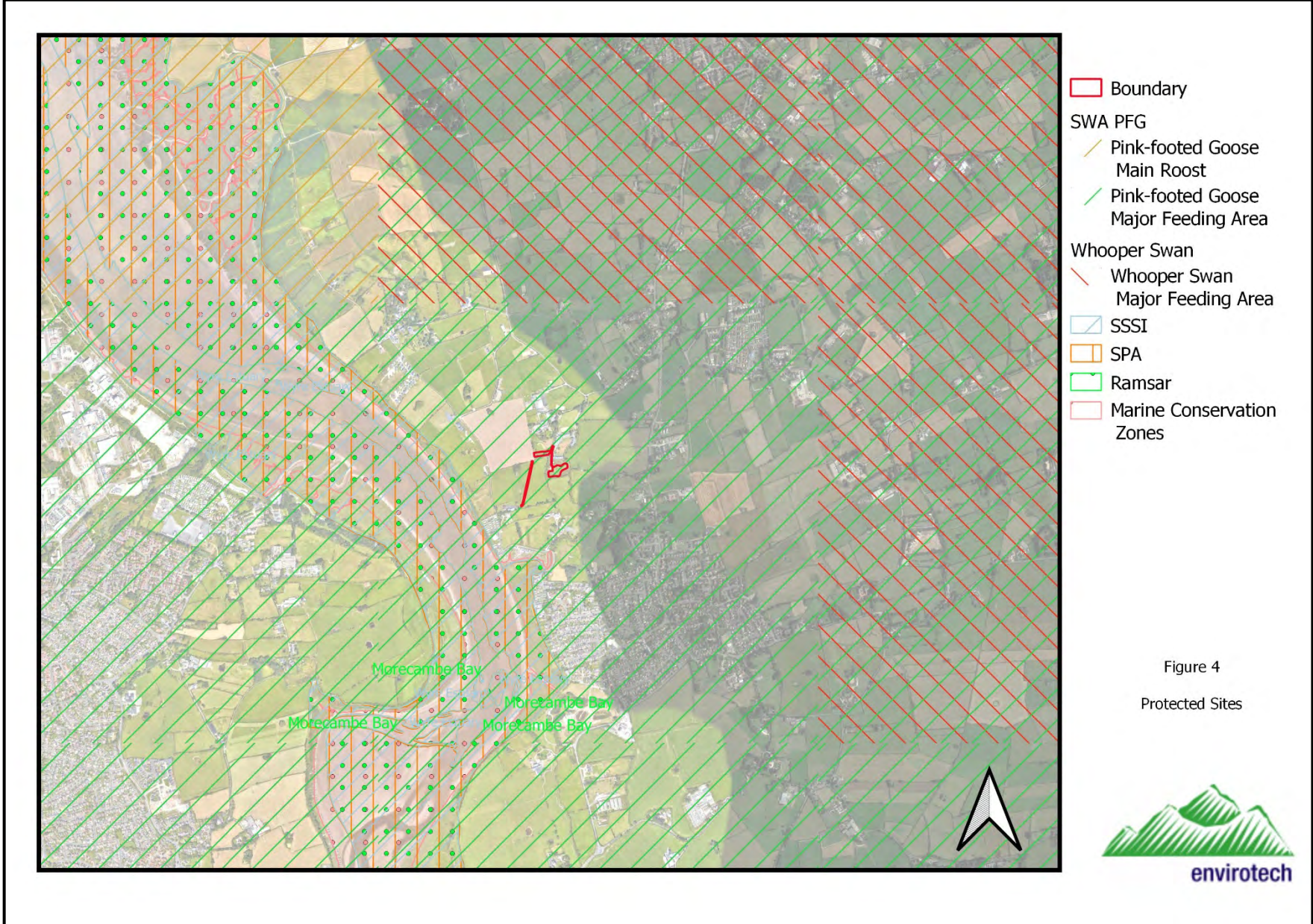


- Boundary
 - BHS Lancashire BHS
 - Lancashire Grassland Ecological Network v1a1
 - Lancashire Woodland Ecological Network v1a1
- Priority Habitat Inventory
England North
- Coastal and floodplain grazing marsh
 - Coastal saltmarsh
 - Deciduous woodland
 - Mudflats
 - No main habitat but additional habitats present
 - Traditional orchard

Figure 3

BAP and Notable Habitats





- Boundary
- SWA PFG
 - Pink-footed Goose Main Roost
 - Pink-footed Goose Major Feeding Area
- Whooper Swan
 - Whooper Swan Major Feeding Area
- SSSI
- SPA
- Ramsar
- Marine Conservation Zones

Figure 4
Protected Sites



6. PHASE 1 SURVEY RESULTS

6.1 *Habitat Results*

6.1.1 The site comprises parts of a holiday complex with cottages, bistro, hydrotherapy pool, fishing lake and recreation areas. There are fences and hedges on the boundaries. The site is surrounded by open farmland, mostly improved grassland.

6.1.2 See Figure 6 for the Phase 1 Habitat Plan and Table 1 for the descriptive Target Notes.

Target Note	Description	Comment
TN1	Cultivated/disturbed land - amenity grassland	The southern part of the site (proposed accessible play area) comprises mown amenity grassland, a compressed gravel perimeter path, used for recreational activity. The mown grass is dominated by Perennial Ryegrass (<i>Lolium perenne</i>) and Yorkshire Fog (<i>Holcus lanatus</i>) with Dandelion (<i>Taraxacum officinale</i>), White Clover (<i>Trifolium repens</i>), Creeping Buttercup (<i>Ranunculus repens</i>) and Creeping Thistle (<i>Cirsium arvense</i>) found scattered through the sward.
TN2	Tall ruderal	Outside the path, there is tall ruderal vegetation including Perennial Ryegrass, Yorkshire Fog, Cocksfoot (<i>Dactylis glomerata</i>) and Annual Meadow Grass (<i>Poa annua</i>) amid Rosebay Willowherb (<i>Epilobium angustifolium</i>), Creeping Thistle, Broadleaved Dock (<i>Rumex obtusifolius</i>), Soft Rush (<i>Juncus effusus</i>), Knapweed (<i>Centaurea nigra</i>), Bramble (<i>Rubus fruticosus</i> agg), Bindweed (<i>Convolvulus</i> spp.) and occasional Gorse (<i>Ulex europaeus</i>). Reed Canary Grass (<i>Phalaris arundinacea</i>) was noted close to the watercourse in the west.
TN3	Intact hedge - species poor	The hedge to the west of the site is relatively tall though occasionally trimmed and comprises Hawthorn (<i>Crataegus monogyna</i>) and occasional Damson (<i>Prunus</i> sp.) with Rose (<i>Rosa canina</i> or <i>arvenis</i>) growing through it and Nettle (<i>Urtica dioica</i>) at the base. A standard Wych Elm (<i>Ulmus glabra</i>) grows close to the centre of the hedgeline.
TN4	Intact hedge - species poor	A hedge of Hawthorn and Bramble grows to the south of the site. It is relatively tall though occasionally trimmed.
TN5	Cultivated/disturbed land - introduced shrub	A small flowerbed has been cultivated close to the recreation area, currently with a crop of <i>Cosmos</i> and shrubbery.
TN6	Scattered broadleaved trees-	To the south of the site several immature trees form a small copse. Species found are Silver Birch (<i>Betula pendula</i>), Oak (<i>Quercus</i> sp.), Field Maple (<i>Acer campestre</i>) and Bird Cherry (<i>Prunus padus</i>).
TN7	Intact hedge - species poor	A short hedge of Hawthorn with occasional Sycamore (<i>Acer pseudoplatanus</i>) and Elderberry (<i>Sambucus nigra</i>) grows between the recreation area and the rest of the site to the north. It is relatively tall though may be occasionally trimmed.
TN8	Hardstanding	A hardstanding carpark stands adjacent to the recreation area, with access road and further car parking to the north of this.
TN9	Running water	To the east, west and south of the site there are ditches containing running water. The sides are densely vegetated.

TN10	Cultivated/disturbed land - amenity grassland	The northern area of the proposed development comprises a small area of mown amenity grassland. This is the site of the proposed new play area.
TN11	Scattered trees - broadleaved	Trees growing in the northern amenity area are immature Horse Chestnut (<i>Aesculus hippocastanum</i>), Field Maple and Oak.
TN12	Intact hedge - species poor	The hedge to the west of this area comprises Hawthorn and Blackthorn. It is relatively tall though may be occasionally trimmed
TN13	Hardstanding	The western area of the site has an area of compressed gravel hardstanding and a track leading west. A cleared area adjacent to the western fishing lake has some re-growth. This is the site of the proposed staff carpark and small storage building, with proposed agricultural livestock building to the west.
TN14	Building equipment	Several piles of farm/building equipment lie to the south of the track.
TN15	Tall ruderal	Tall ruderal vegetation grows to the north of the track, with species found including Perennial Ryegrass, Cocksfoot and Annual Meadow Grass, Broad-leaved Dock, Hogweed, Knapweed and occasional Bindweed.
TN16	Broadleaved trees - plantation	To the south of the western area is a fenced plantation containing Willow (<i>Salix</i> sp.), Ash (<i>Fraxinus excelsior</i>) and Sycamore. This area is also home to a pig.
TN17	Scattered broadleaved trees	A small number of scattered Ash, Sycamore and Hawthorn trees grow close to the access gate and fishing lake in the western development area. There are also immature scattered trees to the west of this area, including Silver Birch and Sycamore.
TN18	Standing water	Two large fishing lakes lie to the north of the proposed development areas.
TN19	Bats	Bats are likely to forage over the site, particularly around hedges, trees and water courses.
TN20	Birds	Birds are likely to nest in hedgerows and mature/dense trees at the site.
<i>Table 1 Details of Target Notes.</i>		



- Boundary
- Target Note
- Hardstanding
- Cultivated/Disturbed Land - Amenity Grassland
- Standing Water
- Building
- Cultivated/Disturbed Land - Introduced Shrub
- Tall Herb and Fern - Other Tall Ruderal
- Cultivated/Disturbed Land - Ephemeral/short perennial
- Woodland - Broad-leaved Plantation
- Improved Grassland
- Intact Hedge - Species-poor
- Dry Ditch
- Running Water
- (Parkland/scattered Trees - Broad-leaved)
- Fence

Figure 5
Phase 1 Habitat Survey



Views of amenity grassland TN1 used for recreation, with surrounding path. This is the proposed site of the play area and extension to the car park.



Tall ruderal vegetation TN2 at edge of recreation area.



Hedge TN3 to west of recreation area



Mature Wych Elm in hedge line



Hedge TN4 to south of recreation area



Flowerbed TN5



Scattered trees TN6 in recreation area



Location of proposed carpark extension



Hedge TN7



Hardstanding TN8 access road and carpark at site



Watercourse TN9 along the west of the site



Watercourse TN9 along the east of the site



Amenity grassland TN10 and trees TN11 in the north of the site with Hedge TN 12 alongside



Hardstanding TN13 in west of site, where staff carpark is proposed, with scattered trees TN17



Piles of building/farm equipment TN14 and scattered trees TN17



Tall ruderal Tn15 and amenity grass land adjacent to track at site of proposed livestock building



Plantation/pig enclosure TN16



Fishing lake TN18 in north-west of site



Fishing lake TN18 in north-east of site



Pond 1 was found to have no significant standing water



Pond 2, which may be restored/improved as part of the project.



Agricultural field TN19 between pond 2 and the site, through which an access track may built



Pond 3 viewed from the site, showing position in centre of an arable agricultural field

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 amenity grassland has a very low species diversity and ecological value, the species are all indicative of regular grazing and disturbance. Birds such as Blackbird (*Turdus merula*) will use the mown grass to forage for worms and other soil-dwelling prey.
- 6.2.3 The tall ruderal vegetation has ecological value as it provides foraging and refuge opportunities for wildlife. It is outside the redline boundary and should be retained.
- 6.2.4 The intact hedges around the site are species poor and contain a low diversity of woody plant species but have been allowed to grow relatively tall and provide foraging and refuge opportunities for wildlife, particularly where there is dense at the base. Any standard trees also have high ecological value.
- 6.2.5 All hedgerows are an HPI. 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.
- 6.2.6 None of the hedgerows are classified as important under the Hedgerow Regulations (1997) (See Appendix 1).
- 6.2.7 Trees within the site boundary comprise small plantations of various species and the occasional mature Ash. These provide diversity across the site.

6.2.8 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 12 records for amphibians within 2km of the site, including records of great crested newt (GCN), with the nearest records on the same side of the estuary being over 600m to the north (Smooth Newt (*Lissotriton vulgaris*) and Common Frog (*Rana temporaria*)) and 900m to the north (GCN).

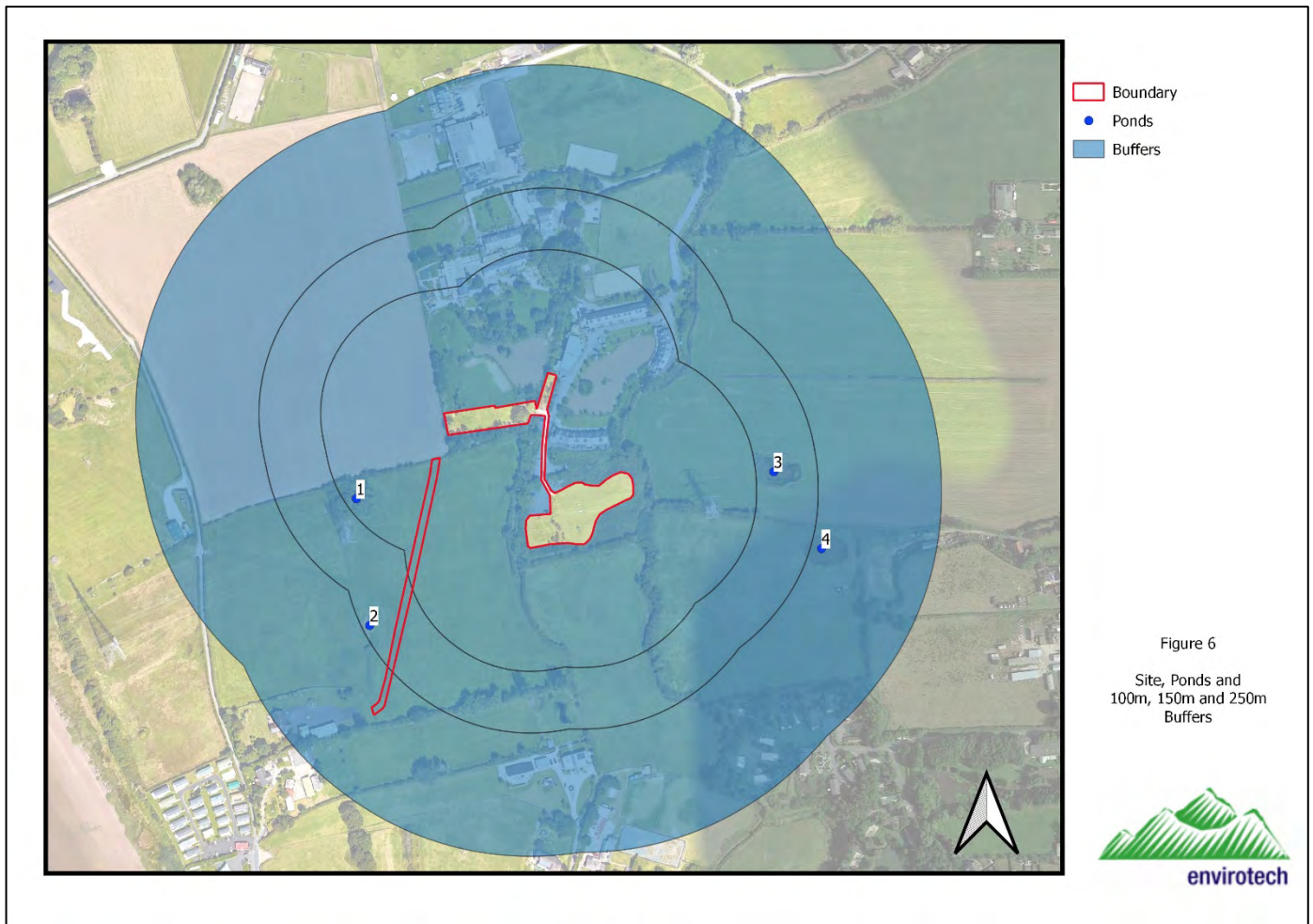
6.3.2 The core development areas have relatively low value to amphibians being open and exposed. The boundary hedgerows and vegetation could be utilised as refuges and/or hibernacula.

6.3.3 Structural diversity at ground level across the site is very poor in the core development areas. Piles of building/farm equipment could offer shelter in the west of the site, although some of these may be moved. There are no areas with log, rubble piles or compost heaps which would be particularly favourable to amphibians.

6.3.4 The running water in ditches around the site offer some habitat potential for amphibians, though running water is generally unsuitable for breeding. These watercourses may act as a barrier to amphibians entering the site due to the steep sides and water flow.

6.3.5 The fishing lakes at the site are too high in predator numbers, with fish as well as waterfowl, to offer suitable breeding habitat for amphibians.

6.3.6 There are four (non-fishing) ponds shown on OS mapping within 250m of the proposed development site. These are shown on Figure 6.



- 6.3.7 Ponds 1 and 2 were accessible. Ponds 3 and 4 were inaccessible, although Pond 3 could be viewed at a distance.
- 6.3.8 Pond 1 was found to have no significant standing water and therefore could not support breeding amphibians.
- 6.3.9 Following the criteria developed by Oldham et al (2000), the HSI tool developed for use with great crested newts and forming part of Natural England's Licensing process was used to determine the suitability of the pond for great crested newts. The HSI was developed as a tool to aid fieldworkers to give ponds and their surrounding habitat a numerical score in terms of their suitability for great crested newts. See Table 3 for the results for the only accessible pond with standing water, Pond 2.

Pond ref.	2
SI1 - Location	1
SI2 - Pond area	0.4
SI3 - Pond drying	0.9
SI4 - Water quality	0.33
SI4 - Shade	1
SI6 - Fowl	0.67
SI7 - Fish	0.67
SI8 - Ponds	1
SI9 - Terrestrial habitat	0.33
SI10 - Macrophytes	0.4
HSI	0.61

Table 3 Results of Habitat Suitability Index.

6.3.10 Within the Natural England Method Statement application form for great crested newt Licences, guidance states the following approach (Natural England, 2008):

6.3.11 'If a pond has a very low HSI score (say <0.5) then there would typically be a minimal chance of great crested newt presence. Hence, with due care and in limited circumstances, the HSI might be used in the absence of newt survey to help conclude that an offence is highly unlikely and therefore work could proceed in that area without a licence. This application of the HSI should only be used where the predicted impacts - were newts to be present - would be low (e.g., development at least 100m from pond, permanent habitat loss <0.5ha or temporary habitat loss <5ha). The developer and consultant should realise that there would still be a risk of committing an offence, but it would typically be so low as to be negligible. Obviously, note that if HSI >0.5, this is not confirmation of newt presence; a newt survey would be required to confirm this'.

6.3.12 Pond 2 scores 0.61 (average) for great crested newt suitability. The presence of waterfowl (Mallard (*Anas platyrhynchos*) were seen on the pond), low quantity of macrophytic growth and very poor surrounding habitat are considered to significantly reduce the likelihood of GCN being present in the pond. Commuting to the core development site at Brickhouse Farm Cottages is also considered unlikely as the habitat between the site and pond is exposed, and there are streams of running water which limit access opportunities. Amphibians would be unlikely to attempt to cross the intervening field 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.

6.3.13 If Pond 2 itself is to be restored/improved EDNA testing is recommended during the period April 15th and June 30th to confirm absence of newts prior to restoration. The results can inform the restoration plans. It should be possible to undertaken restoration works over winter when breeding amphibians would be absent.

- 6.3.14 Ponds 3 and 4 could not be accessed. Pond 3 could be seen distantly from the site surrounded by an exposed agricultural field, and aerial photography shows Pond to be similarly situated. The poor habitat and access for waterfowl are judged to significantly reduce the suitability of these ponds to support GCN.
- 6.3.15 The potential for Great Crested Newts to utilise the ponds within 250m and forage or hibernate on the site is considered to be very low.
- 6.3.16 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.
- 6.3.17 Common toad (*Bufo bufo*) are a Species of Principal Importance (SPI), whilst these are not known to occur in the pond, the potential presence of this or other species, which are less prone to fish predation 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 No records of badgers occur within 2km of the site.
- 6.4.2 Badger setts do not occur on site and a lack of feeding signs or runs across the site would suggest that they do not occur within 30m of site boundaries.
- 6.4.3 The proposed development will not impact on any existing badger runs or setts. The porosity of the surrounding fields to the passage of badgers will not be affected.

6.5 Bats

- 6.5.1 There are 31 records of three species of bat within 2km of the site.
- 6.5.2 The foraging habitat at the site is moderate for bat species, having mature hedges, scattered trees and watercourses. The open amenity grassland offers low foraging opportunities for bats, but boundary vegetation will offer foraging opportunities. The hedge and tree lines are moderate in terms of their structure, diversity and interconnectivity.
- 6.5.3 The site does provide better foraging habitat than much of the surround farmland, but they are not considered exceptional in the local area. Other areas of medium and high quality habitat occur locally, including similar combinations of lakes/ponds/watercourses and adjacent trees.
- 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 tall ruderal vegetation, hedgerows and trees are retained and or their loss is compensated for in any landscaping scheme. Watercourses should also be retained.
- 6.5.5 All trees around the site were also assessed in accordance with Collins ed. (2016) and assigned a risk category. All of the trees on site were category 2 (low) or category 3 (negligible) risk. Those in Category 2 are shown on Figure 7. 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 8.

6.5.6 Buildings at eh site are to remain unaffected by the proposals.

6.5.7 We consider bat species are highly unlikely to rely on the site for feeding but will forage over the site and in the local area. Roosting by bats is unlikely to occur on the site. Mature trees are to remain under the proposed scheme.



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 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' 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. <i>A consultant ecologist required</i>	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. <i>A consultant ecologist is unlikely to be required</i>	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. <i>A consultant ecologist is not required unless new evidence is found</i>	None.	No mitigation for bats required.

Figure 8 Tree risk categories from Hundt (2012).

6.7 Birds

- 6.7.1 There are 153 records of birds within 2km of the site.
- 6.7.2 The hedges and trees of the site offer potential habitat for feeding and nesting birds, and the tall ruderal vegetation also offers feeding opportunities.
- 6.7.3 The poor semi-improved grassland has a low potential for use by nesting birds as the grassland is mown and as such is usually short. Trampling risks are also very high within this area of the site. However, mown grass does offer feeding habitat for birds such as Blackbird (*Turdus merula*) which forage on worms.
- 6.7.4 Waterfowl may also nest around the fishing lakes.
- 6.7.5 Precautionary mitigation is considered appropriate, with retention of hedges and trees. The landscaping scheme should include species such as rowan (*Sorbus aucuparia*) which are seed bearing and will provide food for birds in the winter.
- 6.7.6 The habitat on site is not considered to be of anything more than local significance, habitats present are well represented in the local area. The impact on nesting birds is therefore considered likely to be minor.
- 6.7.7 As the site has regular human presence, and the recreation area also has overhead powerlines running above it, it not considered suitable for feeding Pink-footed Goose. It cannot be considered Functionally Linked Land.
- 6.7.8 Increased use of the site may result in increased use of the local area which may result in disturbance to feeding wildfowl.

6.8 Brown Hare

- 6.8.1 Brown hare are a SPI. There are 13 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 regular human presence across the main site will reduce likelihood of hares residing at the site.
- 6.8.4 The open field to the south-east through which a track may built is more typical habitat for brown hare, although the track will not prevent use by this species. The local area are features numerous fields suitable for brown hare.
- 6.8.5 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 The trees, hedges, ruderal vegetation and watercourses offer valuable resources for invertebrates in the local area.
- 6.9.3 Impacts on the species are considered likely to be low if aforementioned habitats are retained. Landscaping can create greater habitat diversity in the area than already exists.

6.10 Otter

- 6.10.1 There are no records of otters within 2km of the site.
- 6.10.2 No indication of the presence or past use of the site by otter was found. The watercourses are considered unlikely to support fish in significant numbers. The fishing lakes obviously do support fish, but no signs or records of otter were found. There are no waterbodies in proximity to the site which would be especially attractive to Amphibians. This species is considered as being absent from the site.
- 6.10.3 Whilst the watercourses may provide commuting/ dispersal routes through the local landscape, this species is considered as being absent from the site and is unlikely to be significantly impacted by site development.

6.11 Reptiles

- 6.11.1 There are no records for reptiles within 2km of the site.
- 6.11.2 The majority of the site has a very low value to reptiles being devoid of significant ground cover in conjunction with open land suitable for undisturbed basking. There are no areas of the core development area which would be particularly favourable to reptiles.
- 6.11.3 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.
- 6.11.4 No indication of reptiles was recorded at the site.
- 6.11.5 As a consequence, precautionary mitigation would be appropriate in respect of construction activities so as to ensure reasonable avoidance measures are taken to avoid the killing or injury of these species.

6.12 Water vole

- 6.12.1 There are no records of water voles within 2km of the site.
- 6.12.2 The watercourses have steep sides and dense vegetation along much of their length and there were no signs of use by water vole, such as droppings, feeding piles or footprints.
- 6.12.3 No signs were found associated with the fishing lakes, and this would not be a highly suitable habitat for the species.

6.12.4 We consider this species is likely to be absent from the site and there are no records within 2km of the site. Precautionary mitigation would be appropriate in respect of retaining or recreating soft edges to the mill pond.

6.13 Other

6.13.1 The site has some potential for use by hedgehog (*Erinaceus europaeus*), a species which has been recorded locally.

6.13.2 The site may also be crossed by species such as fox (*Vulpes vulpes*) and rabbit (*Oryctolagus cuniculus*).

6.13.3 The boundary hedgerows also provide suitable habitat for small mammals such as field vole (*Microtus agrestis*).

6.14 Statutory and Non-Statutory Sites

Direct Impacts:

6.14.1 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.

6.14.2 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:

6.14.3 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.

6.14.4 Increased use of the site may result in increased use of the local area which may result in disturbance to feeding wildfowl.

7. MITIGATION/RECOMMENDATIONS

7.1 *Compensatory planting and habitat enhancement*

- 7.1.1 The roots of trees on the site and its boundaries should be adequately protected during work in accordance with industry standards. All trees within the site and on the boundaries 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 HPI 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 If Pond 2 is to be restored, EDNA testing is recommended during the period April 15th- June 30th. It is not considered likely that GCN will be present in the pond, but confirmation will help inform any restoration.
- 7.2.2 Restoration should involve planting of native macrophytes and marginal vegetation. Native trees and shrubs could be planted on banks in in he wider area around the pond.
- 7.2.3 There is no requirement for specific mitigation for amphibians across the main 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.
- 7.2.4 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 overnight 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 may occur within 2km of the site. Any 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 and light spill within the site and onto the boundary should be minimised.

7.4.2 Hedges, trees, ruderal vegetation and watercourse should be retained unaltered as far as possible.

7.4.3 New planting within the site should enhance structural diversity.

7.4.4 New roosting provision for crevice dwelling bats could be incorporated into the new agricultural building on site or bat boxes could be erected in existing buildings and trees.

7.4.5 Any category 2 trees to be felled should be re-inspected for bats to confirm they remain absent.

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

7.5 Birds

7.5.1 Nesting by birds within the development area is considered unlikely to occur. Birds may nest within hedges and trees on the boundaries.

7.5.2 Hedges and trees at the site should be retained unaltered as far as possible.

7.5.3 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.

7.5.4 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.

7.5.5 Artificial bird nesting sites for swallow could be incorporated into the new agricultural building under the eaves in suitable locations.

7.5.6 Nestboxes for other bird species could be erected around the site

7.5.7 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.

7.1.1 There may an increase in the local population as a result of works which would give rise to increased recreational use of the adjacent land. This impact is not easily quantifiable but it is possible. To mitigate the effect it is recommended that an information pack is made available to all new residents of the development highlighting the sensitivity of the area and impacts caused as a result of recreational disturbance.

7.1.2 Information pack should comprise, but are not limited to;

- Introduction letter to the pack, setting out the issue and providing a contents page of included documents.
- Description of the European designated sites and their features, this should include a map explaining the boundaries of European designated sites.
-
- An explanation of the sensitivities of features to recreational disturbance and key sensitive times for the features of the European designated sites.
- List any access restrictions in the local area (i.e. under the Countryside and Rights of Way Act 2000, Marine and Coastal Access Act 2009 or Byelaws).
- Suggestions of alternative recreational sites (i.e. parks, walking or cycling routes).

- Code of conduct (i.e. not disturbing flocks of feeding / roosting birds, suggested distances to keep from birds).
- Suggested areas for responsible bird watching and opportunities for people to get involved in the local natural environment (i.e. volunteering opportunities).

7.1.3 The following principles to be followed for the packs;

- The packs are tailored to the location of the development and the European designated sites in the area.
- Tailored to the audience using clear and easy to understand language.
- An appropriate format is used to present and share the packs (i.e. print, size).

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 Hedges, trees and watercourses should be retained unaltered as far as possible.

7.7.3 Contaminants should not be allowed to enter watercourses, ponds or lakes 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.

7.7.4 Restoration of Pond 2 should include planting of native macrophytes and marginal vegetation.

7.8 *Otter*

7.8.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any otter 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 working at night and leaving open trenches with means of escape detailed for amphibians are also applicable to this species which is only likely to pass through the site at night.
- 7.8.3 The points in respect of new shrub and tree planting around the site and the ecological enhancement of Pond 2 are also likely to enhance the sites potential for future use of the site.

7.9 Reptiles

- 7.9.1 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.
- 7.9.2 The points in respect of not leaving open trenches without means of escape detailed for badgers are also applicable to these species.

7.10 Water vole

- 7.10.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any Water vole 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.
- 7.10.2 Ecological improvement of Pond 2 will provide better opportunities for use of the site post development than currently occur.

8. CONCLUSION

- 8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land comprising existing holiday and recreation areas at Brickhouse Farm Cottages, Hambleton. It is proposed new play areas, extended carpark and new agricultural livestock and storage buildings will be constructed on the site.
- 8.1.2 Bats, amphibians, brown hare and nesting birds are known to occur in the local area, there was however no conclusive evidence of any specifically protected species regularly occurring on the site or the surrounding areas which would be negatively affected by site development following the mitigation proposed.
- 8.1.3 The vegetation to be cleared has a low ecological significance in the local area.
- 8.1.4 The protection of trees, hedges, ruderal vegetation and watercourses on the site and landscaping will promote structural diversity in both the canopy and at ground level and will encourage a wider variety of wildlife to use the site than already occurs.
- 8.1.5 Contractors will be observant for protected species and all nesting birds. Should any species be found during construction, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

9. REFERENCES

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10. APPENDIX

Hedge		Feature								
	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						
TN3	Yes	No	Yes	No						
TN4	Yes	No	Yes	Yes						
TN7	No	No	Yes	No						
TN12	Yes	No	Yes	No						
No = Automatic failure										
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					
	No*	No*	No*	No*	No					
	No*	No*	No*	No*	No					
	No*	No*	No*	No*	No					
	No*	No*	No*	No*	No					
Yes = Automatic pass										
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
	No	Yes	Yes	Yes	No	Yes	0	2	0	No
	No	Yes	No	Yes	No	No	0	1	0	No
	No	Yes	No	Yes	No	Yes	0	2	0	No
	No	Yes	No	Yes	No	No	0	2	0	No
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.