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**Ecological Consultants**
**Environmental and Rural Chartered Surveyors**

# Preliminary Ecological Appraisal

# Land at North Lane, Haverigg, Millom, LA18 4LX

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Tel: 015395 61894
Email: info@envtech.co.uk
Web: www.envtech.co.uk
Envirotech NW Ltd
The Stables, Back Lane, Hale, Milnthorpe, Cumbria. LA7 7BL
Directors: A. Gardner BSc (Hons), MSc, MRICS, Dip NDEA
H. Gardner BSc (Hons), MSc, CEnv, MRICS
Registered in England and Wales. Company Registration Number 5028111

## 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

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech have been awarded the Gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

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# Contents

# 1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned in March 2022 to carry out a Preliminary Ecological Appraisal of land off North Lane, Haverigg, Millom, LA18 4LX. 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 4th April 2022. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of notable species at the site or in proximity such that they may be affected by the proposed development.

1.1.4 The plant species assemblages recorded at the site are all common in the local area and are considered to be of low ecological value. Domestic gardens and sympathetically landscaped open space is considered to offer habitat of equal or greater ecological value.

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

1.1.6 Effort should be undertaken to improve the water quality within the drainage ditch, which is suffering from poor water quality and silt build-up. This could be especially impactful given the absence of freshwater ponds in the local area.

1.1.7 This ditch could be dredged and given a step-like profile- producing a deeper, better-oxygenated waterbody with greater vegetation cover- ideal for water voles. This would also produce refugia/hibernacula for amphibians, especially useful given the abundance of the local Natterjack toad population.

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

# 2. INTRODUCTION

## *2.1 Background*

2.1.1 In March 2022 Envirotech NW Ltd were commissioned by PFK Planning and Development to carry out a Preliminary Ecological Appraisal of land off North Lane, Haverigg, Millom, LA18 4LX, central grid reference SD 15278 79048 (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. This Preliminary Ecological Appraisal was conducted as part of a hybrid application, comprising two neighbouring parcels of land with separate owners.

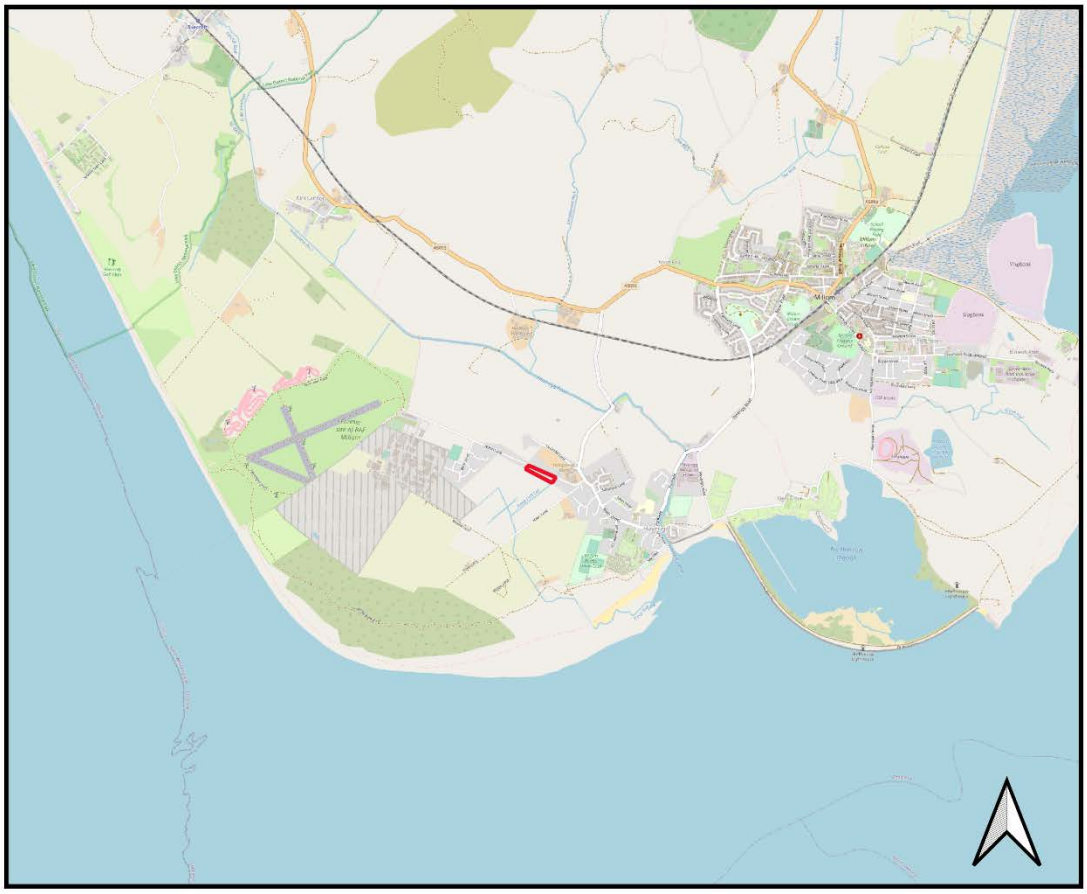


Figure 1

Ordnance Survey map of site location

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## *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, National Biodiversity Network (NBN) and the Multi-Agency Geographic Information for the Countryside (MAGIC) were searched to establish the presence of any records of statutorily protected, notable or rare species, and any designated sites of international, national, regional or local importance within a 2km radius of the site boundary.

3.1.2 The Envirotech dataset is compiled from extensive field surveys from the period 2004-present, as well as records obtained from third parties during this time.

3.1.3 Google Earth and Google Street View were consulted to establish the presence of any features of ecological importance within the local area.

## *3.2 Vegetation and Habitats*

3.2.1 A vegetation and habitat map was produced for the site and the immediate surrounding area. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC 2003).

3.2.2 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act (1981) and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (2019).

3.2.3 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act (1981), namely Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) on terrestrial habitat and aquatic species such as floating pennywort (*Hydrocotyle ranunculoides*), water hyacinth (*Eichhornia crassipes*) and New Zealand pygmyweed (*Crassula helmsii*).

3.2.4 The survey was also informed by the landowner, who was met onsite, to ascertain the recent history of the site.

## *3.3 Timing and Personnel*

3.3.1 During the visit, weather conditions were suitable for the survey types undertaken, being overcast and foggy but still relatively dry.

3.3.2 The site and surrounding land was visited on the 4th April 2022 by

- (BF) Mr Bradley Foster MEnv (Hons)
  Natural England Bat Class Licence (Level 1 Agent)
  Natural England Barn Owl Licence (Agent)
  Natural England Great Crested Newt Licence (Level 1 Agent)

# 4. SPECIES SURVEY METHODOLOGY

## *4.1 Amphibian*

4.1.1 Great crested newts (*Triturus cristatus*) and Natterjack Toad *(Epidalea calamita)* 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 and Natterjack toad.

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 Natterjack toad suitability was assessed based on the habitats adjacent and ephemeral nature/ quality of the waterbodies found on or near site.

## *4.2 Badger*

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

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

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

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

4.2.5 Signs of badgers which were searched for included:

- Setts - 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
- Discarded bedding at sett entrances (this includes grass and leaves)
- Scratching posts on shrubs and trees close to a sett entrance
- The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip

- Dung pit latrines and footprints
- Habitual runs through vegetation and beneath fences
- Hedgehog carcases

## *4.3 Bats*

4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation of 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.

## *4.4 Birds*

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

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

## *4.5 Otter*

4.5.1 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.

4.5.2 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.

## *4.6 Reptiles*

4.6.1 All native reptiles are protected in Britain under the Wildlife and Countryside Act of 1981. It is an offence to intentionally kill, injure, sell or advertise to sell any of the six native species.

4.6.2 The survey for these species was based on assessing the habitat type and suitability of the site. This comprised an assessment of satellite imagery for the site and surrounding area as well as comparison of the results from the records searches with habitat types. The general habitat at the site was evaluated in terms of its suitability to reptiles for foraging or breeding.

4.6.3 Habitat at the site was not considered sufficiently suitable for a full presence/ absence survey to be warranted.

## *4.7 Water Vole*

4.7.1 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.

4.7.2 There is a wet draining ditch on the east boundary of the site. This watercourse was surveyed and assessed for evidence of the presence of water vole.

4.7.3 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.

## *4.8 Survey limitations*

4.8.1 The survey was undertaken in early-spring. At this time of year plant species are less easily identified and the activity of some species is reduced.

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

4.8.3 The duration, extent and scope of the surveys were considered sufficient to plan appropriate mitigation and recommend additional precautionary survey work required prior to the commencement of work.

4.8.4 No significant survey limitations were encountered.

# 5. RESULTS

## *5.1 Data Search*

5.1.1 Envirotech and CBDC 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 Coastal and floodplain grazing marsh is mapped to the site and surrounding fields, sand dunes, saline lagoons and tidal mudflat occur within 2km of the site and are priority habitats (Figure 3).

5.1.3 The nearest statutory protected site is the Morecambe Bay and Duddon Estuary, a RAMSAR, Site of Special Scientific Interest (SSSI), Special Protected Area (SPA) and Special Area of Conservation (SAC), less than 700m to the south of the site (Figure 4).


Figure 2

Protected and
Noteable Species

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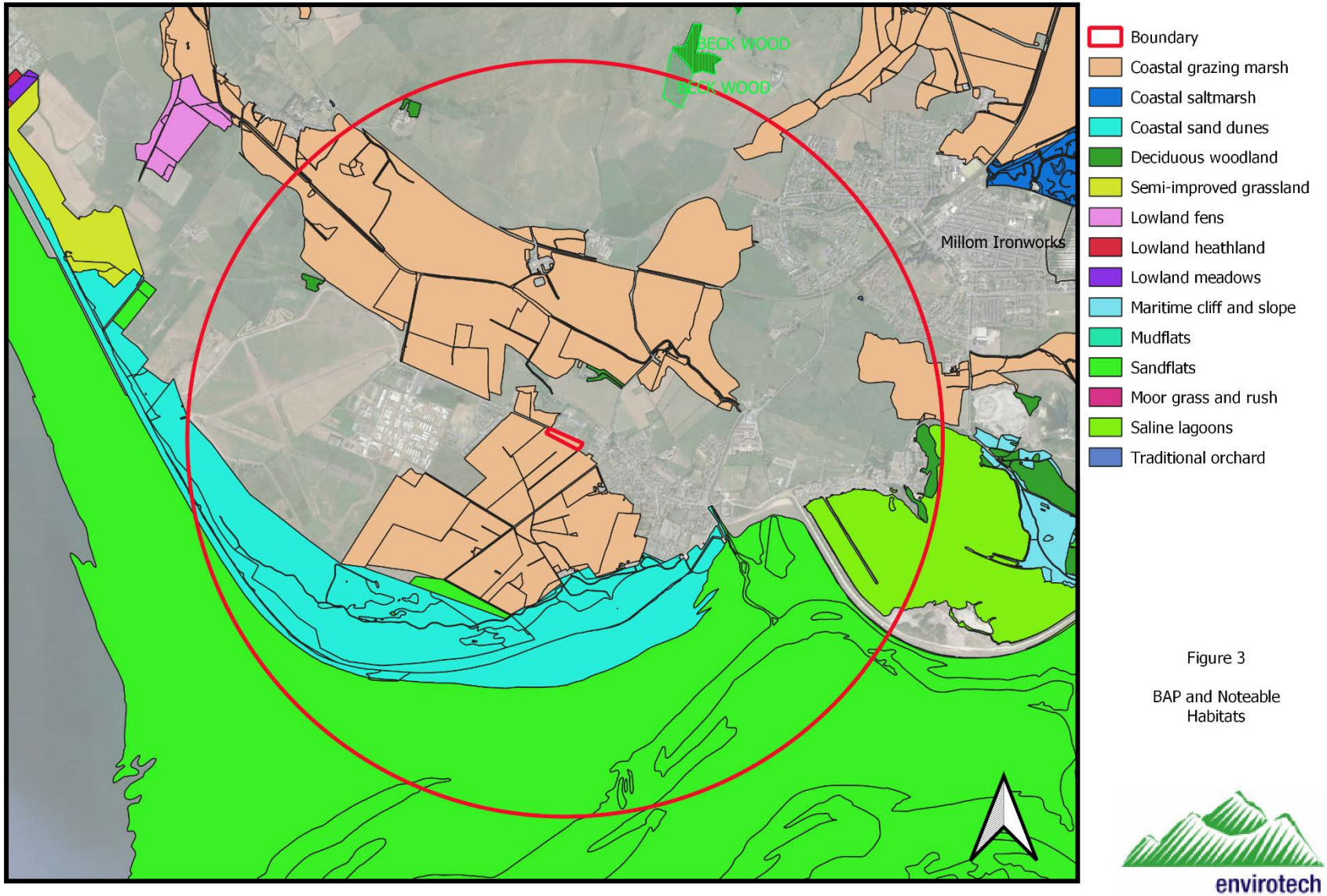


Figure 3

BAP and Noteable Habitats

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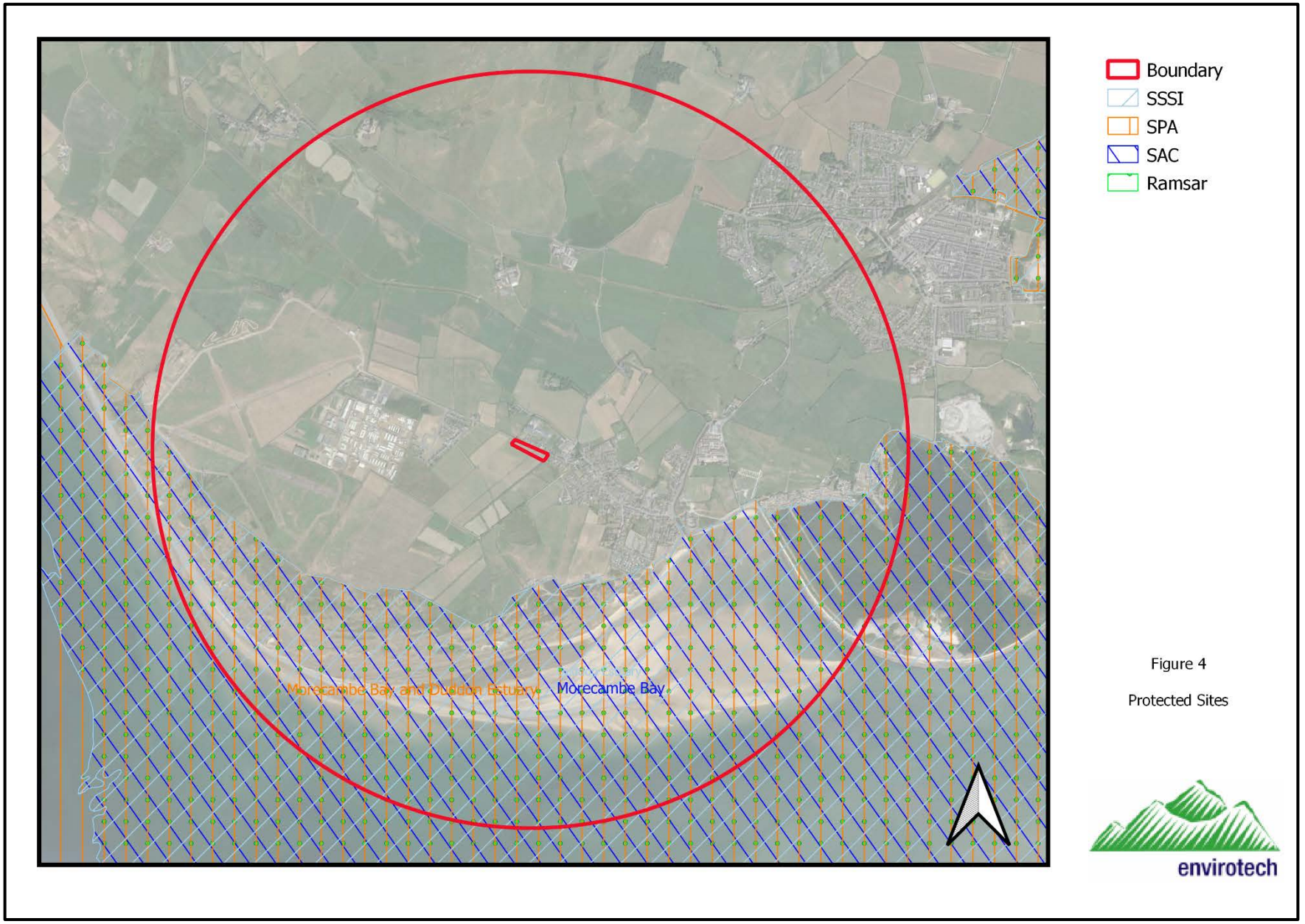


Figure 4

Protected Sites

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# 6. PHASE 1 SURVEY RESULTS

## *6.1 Habitat Results*

6.1.1 The entirety of the site comprises improved grassland, with the main and neighbouring field littered with of cow and sheep excrement. Areas of the perimeter fence parallel to North Lane has an occasional thin and short species-poor hedgerow, as does the boundary fence separating the main and neighbouring field. To the east of the neighbouring field is a long drainage ditch filled with slowly running dystrophic water.

6.1.2 See Figure 5 for the Phase 1 Habitat Plan and Table 1 for the descriptive Target Notes.

| Target Note | Description | Comment |
|---|---|---|
| TN1 | Field 1 | The larger main field of heavily grazed improved grassland scattered with cow faeces. Grassland species consisted of mostly Perennial Rye grass (*Lolium perenne*), White clover (*Trifolium repens*), Common Sorrel (*Rumex acetosa*), Yorkshire fog (*Holcus lanatus*), Cocksfoot (*Dactylis glomerata*), Chickweed (*Stellaria media*), Annual meadowgrass (*Poa annua*) and common nettle (*Urtica dioica*). The northern strip of the field running parallel to North Lane consisted of taller/un-mowed grassland species, including Yarrow (*Achillea millefolium*), Creeping Buttercup (*Ranunculus repens*), Dandelion (*Taraxacum sp.*), Common Sorrel, Oxeye daisy *(Leucanthemum vulgare*), Hawkweed *(Hieracium sp)* and Common horsetail (*Equisetum arvense*) |
| TN2 | Field 2 | A smaller, neighbouring field of heavily gazed improved grassland scattered with sheep faeces. The field contained the same improved grassland species as above, with the addition of Cow parsley (*Anthriscus sylvestris*), Lyme grass (*Leymus arenarius*), Bulbous buttercup (*Ranunculus bulbosus*) and Lesser Celandine (*Ficaria verna*). |
| TN3 | Boundary Fence | A twin boundary fence roughly 2m apart separates Field 1 from Field 2. |
| TN4 | Defunct Hedgerow | A species-poor defunct hedgerow towards the rear of Field 2 (along the boundary fence). Composite species are Gorse (Ulex europaeus) and Brambles (*Rubus fruiticosus*), with standings of common nettle (*Urtica dioica*) and Cleavers (*Galium aparine*) beneath. |
| TN5 | Hedgerow | A 10m-long species-poor hedgerow consisting of just Hawthorn (*Crataegus monogyna*) and Bramble (*Rubus fruiticosus*). |
| TN6 | Dystrophic Water | A long, continuous and shallow drainage ditch is positioned parallel to Field 2. Much of the water's surface was covered by Common water starwort (*Callitriche stagnalis*), with the water in poor condition- high in organic matter content. |

**Table 1** *Details of Target Notes.*

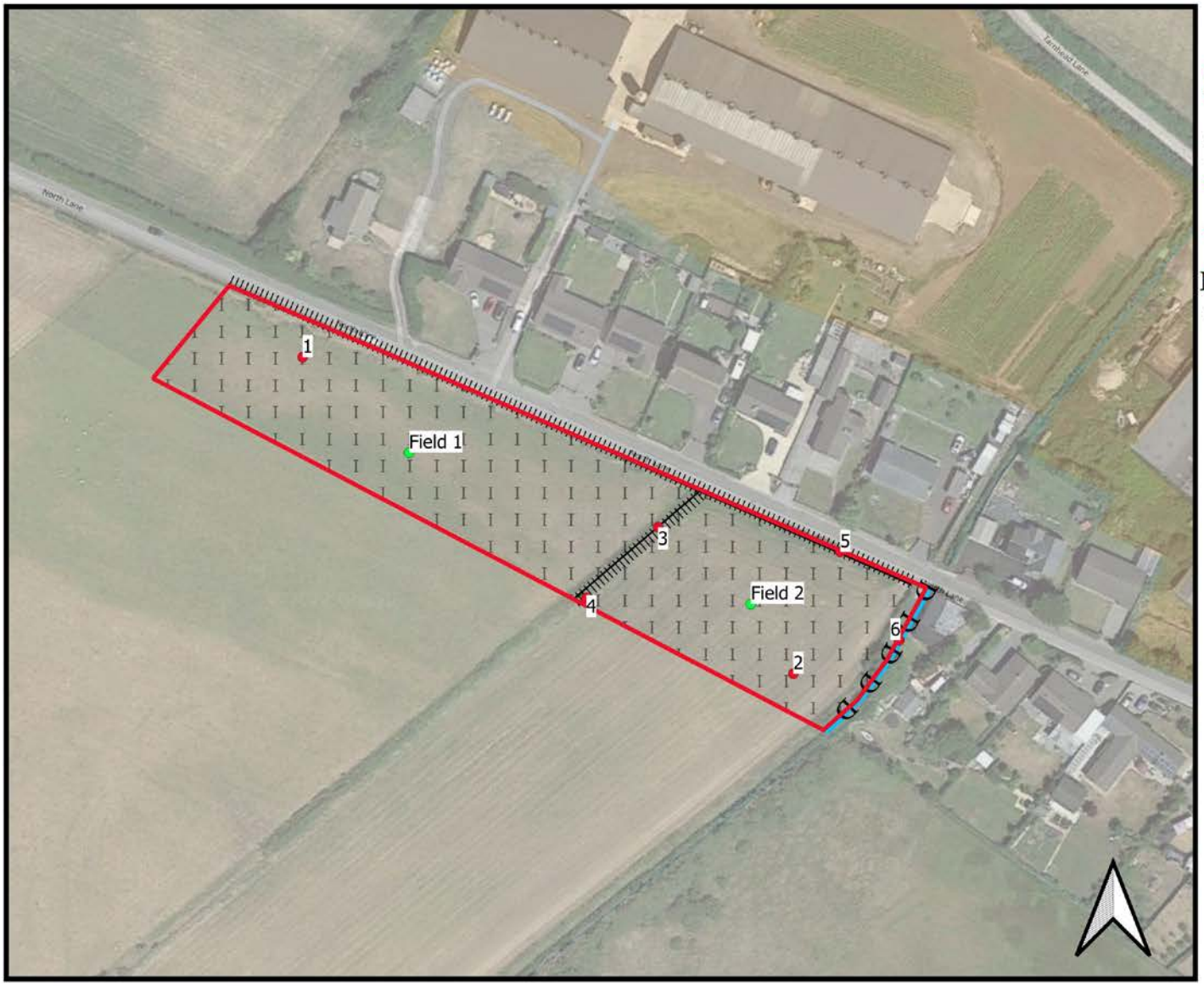


Figure 5

Phase 1 Habitat Survey

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| | |
|---|---|
|  | Looking north-west down North Lane (the access gate for Farm 2 is on the left) |
|  | The fence separating Field 1 and 2 (looking north-east). |
|  | Field 2 littered with cow faeces (looking south). Field 2 has a similar botanical assemblage. |

| | |
|---|---|
|  | Field 2 littered with sheep poo. |
|  | Drainage ditch to the east of Field 2 (looking north-east). |

| | |
|---|---|
|  | Dystrophic ditch water dominated by Common Water Starwort (*Callitriche stagnalis*). |
|  | Dystrophic water high in organic matter and fine sediment. |
|  | Species poor hedgerow in Field 2 (no more than 10m in length). |

| | |
|---|---|
|  | Field 2 dominated by mostly Common Rye Grass and Clover. |

**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 improved grassland has a low species diversity and ecological value- dominated by swards of rye-grass and white clover, containing clusters of daisy and dandelions. This habitat is widespread- present on well-drained, fertile soils, owing to the presence of livestock and/or fertiliser application.

6.2.3 The hedges both parallel to North Lane and those separating Field 1 and 2 are species poor, containing a low diversity of woody plant species. They have limited understory and have been significantly impacted by livestock grazing. Should these need to be lost, transplanting them is unlikely to be of ecological benefit. New shrub/ scrub planting would be suitable compensation for their loss.

6.2.4 None of the hedgerows are classified as important under the Hedgerow Regulations (1997) (See Appendix 1).

6.2.5 No trees are present on-site.

6.2.6 There is no evidence of Japanese knotweed, giant hogweed or Himalayan balsam on the site. No other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) was identified within the site or adjacent land.

## 6.3 Amphibian

6.3.1 There are 243 records for 6 amphibian species within 2km of the site. There are just two records of great crested newt in the local area, though there are 219 records for Natterjack Toads (*Epidalea calamita).*

6.3.2 There are no suitable breeding sites on or within 250m of the site. The boundary ditch has a moderately fast flow.

6.3.3 The core development area has a low value to amphibians being open and exposed. The boundary hedgerows are limited as refuges/hibernacula owing to their lack of understorey and there are no breeding ponds in proximity to the site.

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

6.3.5 The ground on site is hardpacked and would not provide suitable refuges for natterjack toad. Natterjack toad do however prefer short grazed swards, as they have difficulty in traversing through thick vegetation. The site would be passible to this species but it is some distance from the coastal grassland and breeding sites to the South.

6.3.6 The presence of this species on site is therefore unlikely and it would not breed on site.

6.3.7 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 for amphibians, other than natterjack toad, are to be retained.

## *6.4 Badger*

6.4.1 No badger records have been documented 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 25 records of four species of bat within 2km of the site.

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

6.5.3 More extensive areas of medium quality habitat occur locally elsewhere, including the gardens, existing residential dwellings and patches of woodland to the north of the site.

6.5.4 It is not considered there would be no degradation of foraging habitat as a result of the proposal given the lack of suitable foraging and commuting habitat.

6.5.5 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.

## *6.6 Birds*

6.6.1 There are 6170 records of 169 bird within 2km of the site. Common Blackbird (Turdud merula), Herring Gull *(Larus argentatus*) and Carrion Crow (*Corvus corone*) were observed on-site.

6.6.2 The intact hedgerow to the north of Field 2 offers some potential habitat for feeding and nesting birds. The improved grassland has a low potential for use by nesting birds as the grassland is grazed and as such is usually short. Trampling risks are also very high within this area of the site.

6.6.3 The gappy defunct hedges within the site have insufficient density to be of high value to nesting birds.

6.6.4 This site cannot support tree hole nesting species such as woodpeckers given the absence of all trees.

6.6.5 A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made and it is considered the risk is low for nesting birds.

6.6.6 Precautionary mitigation is considered appropriate. The landscaping scheme should include species such as rowan (*Sorbus aucuparia*) which are seed bearing and will provide food for birds in the winter.

6.6.7 The habitat on site is not considered to be of anything more than of local significance, habitats present are well represented in the local area. The impact on nesting birds is therefore considered likely to be minor.

6.6.8 The site lies adjacent a coastal area designated for its overwintering bird populations. The compacted hard ground would not be ideal for use by overwintering wader species for feeding. The very short sward would not be ideal for grazing wildfowl such as geese, although it would not be unsuitable.

## *6.7 Otter*

6.7.1 There is 1 record of otters within 2km of the site.

6.7.2 No indication of the presence or past use of the site by otter was found. The stream does not support fish. There are no waterbodies in proximity to the site which would be attractive to Amphibians. This species is considered as being absent from the site.

6.7.3 Whilst the site may provide foraging and refuge opportunities (there are 7 records of otters within the wider area, the closest of which is 2.5km to the north-west of the site), and the drainage ditch may provide a commuting/dispersal route through the local landscape, this species is considered absent from the site and is unlikely to be significantly impacted by site development.

6.7.4 Precautionary mitigation would be appropriate in respect of construction activities which will need to be restricted at night.

## *6.8 Reptiles*

6.8.1 There are two records for reptiles within 2km of the site- 1 count of Adder (*Vipera berus*) and 1 count of Common Lizard (*Zootoca vivipara*).

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

6.8.3 Reptiles may occur along the boundary of the site and this provides linkage across the local landscape.

6.8.4 No specific mitigation for these species is considered necessary.

6.8.5 No indication of reptiles was recorded at the site.

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

## *6.9 Water vole*

6.9.1 There are 3 records of water voles within 2km of the site.

6.9.2 The vegetation growing along the drainage ditch could potentially be used by this species. However, the water is of incredibly poor quality, with the ditch unlikely to remain wet all year round.

6.9.3 No signs of water voles, such as latrines, feeding piles, footprints or burrows were present on-site. We consider this species is likely to be absent from the site.

## *6.10 Other*

6.10.1 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.

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

6.10.3 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.

## *6.11 Statutory and Non-Statutory Sites*

Direct Impacts:

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

6.11.2 The habitats on site do not represent or are linked to those found in any of the statutory or non-statutory sites locally.

Indirect Impacts:

6.11.3 There may an increase in the local population as a result of works which would give rise to increased recreational use of the adjacent SSSI/ SPA. This impact is not easily quantifiable but it is possible. To mitigate the effect it is recommended that a Householder 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.

6.11.4 Householder packs 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).

6.11.5 The following principles to be followed for the packs;

- The householder 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 householder packs (i.e. print, size).

# 7. MITIGATION/RECOMMENDATIONS

## *7.1 Compensatory planting and habitat enhancement*

7.1.1 Any 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 (most likely) 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. For example, the conventional drainage ditch to the eats of Field 2 could be given a two-stage/stepped design, creating a greater area of grassy refugia for amphibians whilst simultaneously improving water quality.

7.2.3 The ditch could also be partly dredged to deepen it and ensure dissolved oxygen levels remain suitable during periods of hot weather. Its current shallow nature is likely to lead to oxygen depletion in periods of warm weather. Dredging should remove no more than 75% of the existing vegetation, in order that plants are able to recolonize, and dredging/ re-grading of the banks should occur during the winter when amphibians are not breeding.

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 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 not known to occur within 2km of the site. Despite this the following points should be followed.

- All work must take place during daylight hours as badgers are more likely to be commuting over the site at night and this will ensure the risk to any badgers passing through the site will be minimised.

- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure badgers are not trapped during work.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

- Boundary fences/walls should incorporate gaps at their base to facilitate the passage of badgers across the site.

## *7.4 Bats*

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

7.4.2 New roosting provision for crevice dwelling bats could be incorporated into the buildings on site or bat boxes could be erected on the upper gables of any new houses.

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 Otter*

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 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.

7.6.2 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.

7.6.3 The points in respect of new shrub and tree planting around the site is also likely to enhance the sites potential for future use of the site.

## *7.7 Reptiles*

7.7.1 There is no requirement for specific mitigation for these species. However, as a precautionary measure, in the unlikely event that any signs of any reptile activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.7.2 Dense scrub and woodland on the edge of the development site should be retained such that it is in proximity to open areas of ground which will also be suitable for basking.

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

### *7.8 Water vole*

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 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.

7.8.2 As previously discussed, the re-grading of the drainage ditch and its ecological improvement 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 open farmland off North Lane, Haverigg, Millom. It is proposed new houses will be constructed on the site.

8.1.2 Nesting birds and amphibians 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 All hedgerows around the perimeter of the site and between Field 1 and 2 are of poor quality and being <20m long, do not fall under the Hedgerow Regulations (1997) for classification as important. Should these be removed however, they should be compensated by extensive planting of denser, species-rich hedgerows or saplings, given the lack of trees both on-site and within the local area.

8.1.4 The planting of trees along the site boundary (especially in-between sections of hedgerow) 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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Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10 (4), 143-155.

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# 10. APPENDIX

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

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