Preliminary Ecological Appraisal and Biodiversity Net Gain Assessment

Land to north-west of Poolside, Haverigg

6th November 2025

Report 1125/2

Report commissioned by;

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EXECUTIVE SUMMARY

A Habitat survey was carried out on and around the land-parcel to the north-west of Poolside in Haverigg. It is proposed that the land use of the field in the northern half of the land is changed from commercial to domestic (no physical changes are proposed). On the southern half of the site it is proposed that 2 outbuildings are demolished and replaced with one larger outbuilding.

The purpose of the survey was to identify protected and/or notable habitats and species which may be impacted by the proposed scheme, to determine the likelihood of these impacts and suggest whether further surveys are required to quantify these impacts or to propose mitigation to compensate for these impacts.

A desktop search for records and information, a field survey, and a protected species data search were undertaken to establish species and habitats present on and in the near vicinity of the property.

A total of 3 broad habitat types were recorded in the survey area, and these were mapped and described in their local context. Of notable consideration were hedgerows (but there are no proposed impacts to these).

Numerous records of notable and protected species were collected, with a primary focus on amphibian records as the property is in a priority area for natterjack toads. Records for all six native Cumbria amphibians were found, though only an old single record for great crested newt was found - so this species is considered unlikely to be present. Numerous records for common and natterjack toad were produced – both of which are priority species, and natterjack toads are European protected species.

There are no breeding ponds on site, and no suitable breeding ponds for natterjack toads within 500m. The closest record of natterjack toad is 500m to the west of the property.

The features of ecological interest or concern which could be affected by the proposed works are:-

- **Foraging and dispersal habitat for widespread amphibian species (with a very low risk of natterjack toad).**
- **Nesting birds in hedges, scrub, trees and outbuildings**
- **Terrestrial mammals (notably hedgehog)**
- **Statutory protected sites (within 200m).**

After analysing records in the context of this project, no further detailed ecological surveys are required, provided that the detailed avoidance and mitigation measures described in section 5.2 are adhered to.

Due to the proximity of Duddon Estuary SSSI (and associated SPA and SAC), the planning authority is required to consult with Natural England about this application.

A BNG assessment was carried out, to determine the required habitat enhancements to achieve a 10% gain in habitats. Though the net change in habitat area is very small, the red line boundary covers a large area and includes hedgerows – necessitating minimum 10% gain in these habitats.

The required gains can be achieved by planting 13 trees (either native species or fruit trees), and 22m of native hedgerow. Planting plans and methods are included in the report.

Contents

1. INTRODUCTION

1.1 The aim of the survey

The aim of the survey was to identify any habitat or protected species issues or potential ecological constraints or concerns that would result from the change of use of the land parcel to the north-west of Poolside (Haverigg) to domestic use, and construction of a new garage to replace existing outbuildings.

The survey was carried out following technical guidelines provided by CIEEM (Chartered Institute of Ecology and Environmental Management) and mapped following UK Habitat Classification guidance (see Appendices for full references).

1.2 Biodiversity Net Gain

Following the Environment Bill 2021, a demonstrable net gain in biodiversity is required for most new developments (with some specific exceptions). This is mandatory for most projects from 12th February 2024, and for small sites from 2nd April 2024. As part of the assessment the current biodiversity value of the landholding is calculated, and compared with the likely biodiversity value of the land after the development after taking account of enhancement measures prescribed by the ecologist. The aim is for a minimum of a 10% gain in biodiversity value of the land after completion of the development.

The standard means of calculating Biodiversity Net Gain (BNG) is using the statutory (small sites) DEFRA calculation tool. The full details and calculations are included in the appendices.

1.3 Proposed works

The proposed works involve the removal of two existing outbuildings, and the construction of a new 13.8 x 8.3m garage on the footprint of one of the buildings. A new access track will be required to link this outbuilding with the existing gateway on the south-west corner of the site. Existing hardstanding under outbuildings will be re-instated to garden when they outbuildings are demolished, other than where required for access to the new outbuilding.

The northern half of the site (currently grassland) is classed as commercial land, and the application also includes the change of use of this land to domestic curtilage.

No timescale has been confirmed yet.

1.4 The survey area/ zone of influence

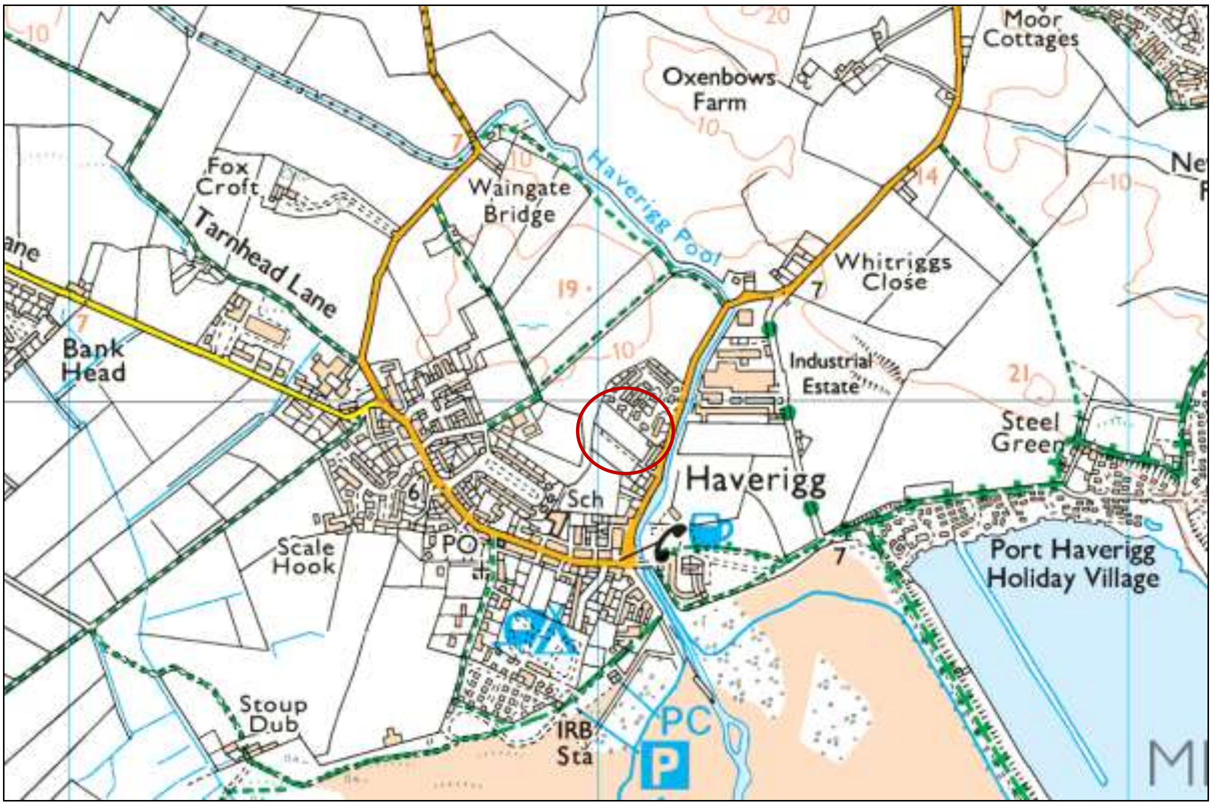
The habitat survey was carried out on the proposed works area (site grid reference SD1603 7895) and, where possible, on all open land and field parcels defined in the buffer zone (approximately 50m from the land boundary as the scope of works is so limited). As no major earthworks are proposed, a limited zone extending to 150m from the development footprint was surveyed from public rights of way and access land to establish whether any ponds likely to support great crested newts or natterjack toads were present.

The pre- application advice received from the Planning Authority detailed natterjack toads and their habitat as a key ecological concern for the proposals, and as such this report has focussed on potential impacts on amphibians.

1.5 Report validity

This report is valid for 12 months from the date of issue, after this time there may be a need to re-visit the site for an update.

Figure 1: Location of land holding



OS Map copied under licence (No. 100055725)

Figure 2: Aerial photograph showing land and surrounding habitat

Imagery date = 2025

2. SURVEY METHOD

2.1 Desktop study

Aerial photographs (Google Earth) and Ordnance Survey maps were used to assess the likely habitat types in and around the site, and to search for waterbodies that could host protected species such as natterjack toads. Natural England and JNCC websites were used to obtain boundaries of any statutorily designated sites in the area.

Cumbria Biodiversity Data Centre was consulted and a data search requested for amphibians records within 2 km radius of the centre of the site.

2.2 Habitat survey

The habitat survey was carried out by Tamsin Douglas MCIEEM (South Lakes Ecology) on October 21st 2025.

The area was walked over, and habitats within the study area were described and mapped using standard UK Habitats Classification methodology (UKHab 2020). The Professional edition of the UKHab guidance was followed, and habitats classed to level 5 of the hierarchy were applicable. Secondary codes were used with regard to land management, origin and habitat mosaics only. The minimum mappable unit was 25m², with target notes used to describe smaller features.

2.3 Protected species survey

Evidence of and potential for protected species was assessed on the site on 21st October 2025. In particular, the potential for the following species/ animal groups was assessed:-

<u>Birds</u>

The site was assessed for its potential to support notable bird species, or important assemblages of wintering or passage birds. In particular the habitats on site were assessed for their potential and likelihood to support breeding birds, and any evidence/ sightings noted.

<u>Reptiles</u>

The site was assessed for its potential to support reptiles such as common lizard, slow-worm and adder, following guidance issued in the ‘Herpetofauna Workers Manual’.

<u>Amphibians</u>

A search of the site was made to identify and assess any possible breeding ponds for amphibians, notably great crested newt *Triturus cristatus* and natterjack toad *Epidalea calamita*. As no significant earthworks are proposed, this search was limited to 150m radius of the site boundary. An assessment was also made of the quality of the habitat for foraging and potential for hibernation sites. Survey was carried out following guidance published in the ‘Herpetofauna Workers Manual’.

<u>Bats</u>

The site was assessed for its suitability for roosting, foraging and commuting bats. Trees, buildings and other structures were appraised for likelihood of hosting roosting and/or hibernating bats, and topographical features of interest to commuting bats were noted. Survey followed methods described in the BCT Good Practice Guidelines (4th edition).

Terrestrial mammals

The potential of the site to support other protected terrestrial mammals, notably badger *Meles meles*, otter *Lutra lutra* and water vole *Arvicola amphibius* was assessed. Evidence of activity such as badger setts/ otter holts, paths, latrines, droppings/ spraints and feeding signs were noted and appropriate guidance followed.

Other species

Presence of and potential for other protected and/ or notable species was recorded.
Potential of the site to support important invertebrate assemblages was inferred from habitat quality, and any sightings recorded.

2.4 Invasive species survey

The presence of any invasive species within the survey area was recorded and mapped.

2.5 Survey constraints

The weather was damp, mild and overcast – so animals such as reptiles were less likely to be seen, but the milder weather would mean that amphibians would still be fairly active (though not in breeding ponds). The bird nesting survey had finished. The likely presence of species mentioned above was inferred from the potential of the habitat to support them.

The time of year was suitable for classifying and for assessing botanical quality of hedges and grasslands, as many plants still retain their leaves and flowering parts, and many species of interest are still identifiable. Some grassland species would no longer be evident, however, so a full species list would not be achievable.

There were no access constraints to the site, but there was no access to the interior of the outbuildings.

3. BASELINE ECOLOGICAL CONDITIONS

3.1 Desktop survey results

3.1.1 Protected and statutory sites search

There are several sites within 5km of the land-holding, including some within 200m of the property boundary. Details of the sites are included in Table 1 below.

The proximity of the protected sites, and nature of the proposals (change of land use), means that the Planning Authority will need to consult with Natural England about this application.

Table 1: Protected sites within 5km of proposed development

Protected area/ site	Description of interest	Distance from property
Duddon Estuary SSSI	Coastal habitats, breeding and wintering birds, natterjack toads	200m south
Morecambe Bay SAC	Coastal and estuarine habitats, and great crested newt	200m south
Morecambe Bay & Duddon Estuary SPA	Breeding, migratory and wintering bird species and assemblages	200m south
Ironworks LNR	Brownfield site – flora and herptiles (including natterjack toad)	2km
Shaw Meadow & Sea Pastures SSSI	Botanical interest	4km
Sandscale Haws NNR	Botanical, birds and herpetological interest	4km (over estuary)

3.1.2 Non-statutory sites and notable habitats search

No search was carried out for non-statutory sites as the project has such as small zone of influence.

There are several notable habitats listed under section 41 of the NERC Act (previously known as BAP habitats) that are within 1km of the site, the closest being coastal sand dunes (270m to south) and coastal & floodplain grazing marsh (280m to north). Other habitats within 1km include: saline lagoon and deciduous woodland.

Other notable habitats found within 2km of the site include ancient woodland and maritime cliff & slope.

3.1.3 Protected and notable species search

The data search from Cumbria Biodiversity Data Centre focussed on amphibian records - providing details of all records within 2km radius of the centre of the land holding.

A search was carried out on the Magic website, which shows all EPS (European Protected Species) licences, and records from great crested newt pond surveys. There is one nearby positive record of great crested newt in a pond 5km to the north-west, and a negative result from a pond 5km to the north. There are no closer records.

The EPS licence search provided records of natterjack toads 2.5km to the east (dating from 2014 & 2015). There are no other records of EPS licences within 5km of the land-holding.

Due to the limited scope of works proposed to the land-holding, a broader species search wasn't commissioned, and the potential for any other notable species was derived from the nature of the habitats present.

Table 2: Amphibians of conservation concern which have been recorded within 2km of the proposed site

Species	Priority species listed under s41 of NERC Act 2006?*?	Wildlife and Countryside Act 1981 (as amended) Sch 1,5 or 8.	Proximity to site	Number of records (most recent)
Palmate newt		Yes	1.6km	2 (2013)
Smooth newt		Yes	0.9km	11 (2015)
Great Crested Newt	Yes	Yes	0.7km	1 (1981)
Common toad	Yes	Yes	0.9km	82 (2016)
Common frog		Yes	1.4km	91 (2016)
Natterjack toad	Yes	Yes	0.7km	1050 (2021)

**Previously BAP (Biodiversity Action Plan) priority species*

The closer records of both common toad and natterjack toad are quite old, all more recent records (within the last 30 years) have been at least 1km from the site.

The author is aware of breeding natterjack toads in new ponds on the nearby caravan site (500m to the west) – recorded in summer 2022 (so possibly not yet added to the CBDC database).

3.2 Habitat survey results

The habitats were mapped, following UKHab methodology (see methods section and appendices), as shown in Figure 4 in the appendices. Descriptions of the major habitats are given in section 3.2.2 below.

Photographs of the area of the proposed works are included below.

3.2.1 Habitats recorded within survey area

- h2 Hedgerows
- g4 Modified grassland
- u1 Urban habitat (houses, gardens, allotments and hardstanding)

3.2.2 Habitat descriptions

<u>h2 – Hedgerows</u> (h2a – native and h2b non-native) 521 (unmanaged)

Hedgerows (boundary line of shrubs over 20m long) are of intrinsic value, aesthetically, ecologically and functionally. They have value as stock proofing, but also for birds and small mammals as they provide food and shelter/ nesting opportunities. Hedgerows that aren't as intensively managed (not flailed annually) are of higher value as they offer more nesting potential for birds and generally produce more berries. Hedges can also form important flightlines (navigational tools) for bats, and can provide sheltered foraging areas for them. Hedgerows can also be of importance as 'wildlife corridors', linking larger areas of habitat such as woodlands.

The grassland is bounded on all sides by hedgerows – two of which are pre-dominantly native, and two are predominantly non-native/ garden escapes. None of the hedgerows are actively managed, and they are tall and robust – especially the native hedgerows to the north and west boundary. The non-native hedgerows comprise rosa rugosa, bramble and fir, with some hawthorn and ivy. The native hedgerows are made up of hawthorn, willows and sycamore, with some elder and bramble. None of the hedges are stockproof, but they are broadly continuous. As they are little managed they are robust and have a good supply of berries and fruit for wildlife.

Images 1a and 1b. Non-native hedgerows (left) and native hedgerow (right).

There are no proposals to remove hedges as part of this application.

<u>g4 – Modified grassland</u> (521 unmanaged)

This is grassland that is regularly and intensively managed – such as lowland grazing pasture, silage fields, or amenity grassland. Typically these grasslands are subject to frequent fertiliser and pesticide application, and have been seeded - supporting a limited diversity of widespread agricultural or amenity species. Modified grasslands such as these are usually of very limited value to wildlife, though surrounding good habitat, including hedgerows, can increase their value.

The grassland at the northern end of the site was previously regularly mown (previously a commercial caravan site), but is currently unmanaged. It is very grassy and flat with low species diversity, and dominated by bent grass, Yorkshire fog and cock's foot. Herbs are limited to buttercup, docks and bird's foot trefoil. There is some evidence of mole activity, but no other mammal sign was seen.

Image 2. Modified grassland

There are no proposals on this grassland area, other than to change its use from commercial to domestic (which may involve a re-instatement of mowing and grassland management).

<u>u1 – Built up areas & gardens</u> (827 828 vegetated garden)

The majority of the habitat surrounding the property, and the southern section of the land-holding comprises urban habitat. This includes houses, gardens (vegetated and unvegetated), areas of hardstanding and access roads and allotments.

Depending upon their management and size, gardens can provide good habitat for some species of wildlife – notably small birds, small mammals, amphibians, widespread reptile species and insects. Houses and buildings can provide nesting sites for birds and roosting sites for bats.

The two buildings to be demolished were appraised for potential to host bats and nesting birds.

The gardens around the existing outbuildings include old polytunnels and greenhouse frames and are severely overgrown, other than one area of mown grass. Bramble is spreading in from the boundaries and hedges.

A small area of garden will be lost to construct the new outbuilding and access track.

Images 3a and 3b. Overgrown garden behind existing block outbuilding (left) and the block building to be demolished (right).

A summary table of the habitats described above and their importance in the context of British conservation and the legal framework is shown below (Table 4).

Table 4: Habitats of conservation concern

Habitat	Priority habitat listed under s41 of NERC Act 2006?*	Is habitat a notable consideration?
Hedgerows	Yes	Yes, but no proposed impacts
Modified grassland		
Urban habitats		

***** *Previously UK Biodiversity Action Plan (BAP) habitat*

3.2.3 Surrounding habitat (adjacent to red line boundary)

Surrounding habitat is predominantly urban – with houses and gardens to the east and south of the land, and allotment gardens to the west. To the north is agricultural pasture.

There are no foreseen impacts on any of these surrounding habitats as a result of the change of use of this land and replacement of the 2 outbuildings with one larger one.

3.2.4 Ponds within 150m of the red line boundary

Online aerial images and OS maps were used to identify any potential great crested newt or natterjack toad breeding ponds within 150m of the proposals. A smaller search radius was used than the standard 500m as there are very little earthworks proposed in this application and there are no ponds on the property.

One small pond was found within 150m of the red line boundary in the school grounds on the southern side of the allotment gardens (50m south of the planning boundary). This pond could not be accessed to enable an assessment of its potential to host breeding amphibians.

No other ponds were noted in the immediate vicinity of the land holding. Two ponds are present approximately 500m to the east, one of which is known to have supported breeding natterjack toad – but habitat between this pond and the red line boundary includes inter-tidal watercourses, a main road and urban houses, which are unlikely to be used by natterjack toads to disperse or forage.

3.3 Protected and notable species survey results

3.3.1 Birds

Nesting birds are likely within scrub and individual trees on the site. The open grassland is not suitable for wintering or breeding waders due to its proximity to urban areas and the tall surrounding hedges.

It is possible that small birds such as wren and robin could nest in the outbuildings, but no signs of previous nesting attempts were seen.

There are no planned impacts on the hedges or trees on site, but any trimming or hedge laying needs to be done at the appropriate time of year (not between mid-March and the end of August). If these precautionary measures are followed there should be no site impacts on birds.

3.3.2 Reptiles

The habitat is not especially suitable for common lizard and slow worm as it is flat and surrounded by urban habitat and agricultural pasture. The habitat is not suitable for adder or grass snake.

Slow worm can sometimes be present on allotments, however, so is there is a slight risk of them being present on site – though there have been no records of them found on recent data searches in the Haverigg area.

The risk of reptiles being present on site is considered to be very slight, and there are no foreseen impacts on these animals from the proposed work.

3.3.3 Amphibians

The data search produced records of all 6 amphibian species native to Cumbria, within 2km of the site. There was only a single record of great crested newt, however, and this dated from 1981 – so this species is unlikely to be present in the local area.

Common frog, palmate newt and smooth newt have all been noted in the local area, though none within 500m of the property. Common toad (a priority species) has been recorded regularly in the local area, though all of the recent records (last 30 years) have been at least 1.4km from the property.

Natterjack toad records were plentiful, and the area is regularly surveyed for these animals (most of the other amphibian records were collected during natterjack surveys). As for the common toad - recent records were over 1km away to the east, with closer records from the 1980s and early 1990s. These suggest that natterjack toads are not likely to be present in the area, but the author is aware of breeding natterjack toads in some newly created pools 500m to the west of the property.

There are no ponds on site, and only one within 500m (in school grounds 50m to the south) – so the property will not support breeding amphibians. The habitat on site (overgrown gardens and hedges) could be used by foraging amphibians, and by any amphibians dispersing from the pond to the south.

Natterjack toads prefer short cropped grassland to forage, with soft ground to enable them to burrow, and as such the habitat onsite is unlikely to appeal to these animals – preferring coastal grassland and sand dune habitat. They also have a preference for ephemeral or new ponds for breeding (as opposed to established ponds such as the one 50m from the property). Overall, it is considered unlikely that they would be encountered in site, and the proposed changes to the land use and the new outbuilding will not impact on any potential natterjack toad habitat (terrestrial or breeding), though a cautionary approach is recommended.

The habitat could be used by the other 4 widespread species of amphibian (great crested newt are considered very unlikely to be present), and some cautionary methods of work would be recommended to ensure no impacts on these animals (especially common toad as it is a priority species).

3.3.4 Bats

There are no suitable features on site for roosting bats. The two buildings to be demolished were assessed for their potential to host bats – and both were considered to have negligible scope as there were no suitable features or crevices present.

Other outbuildings in the vicinity also had negligible scope to host bats, but some of the local residential houses could host roosting bats. The habitat is open and exposed to the prevailing winds, with little shelter. The hedgerow and grasslands are likely to support some insect prey for bats, as will the nearby sand dunes and watercourses. Overall, the habitat is considered to be of low quality for feeding and dispersing bats – and most suited to open countryside species such as pipistrelle and noctule.

As there will be no loss of grassland or hedges to this proposal, and the buildings to be demolished are negligible value to roosting bats – there are not considered to be any likely impacts in individual bats or the local bat population from the works outlined in section 1.3.

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3.3.5 Terrestrial mammals

No signs of terrestrial mammals were seen, aside from some mole hills. The site is small and surrounded by roads and housing on 3 sides, which would deter most larger mammal species. It is possible that the site is used by hedgehogs (there are local records of this species) and could be used on occasion by foraging otter and badger.

Impacts from the proposals on terrestrial mammals are considered unlikely if precautionary measures of work are followed – especially with regards to hedgehogs, which are known to be active in the local area.

3.3.6 Other species

No other protected species were noted. The site is not likely to host significant or notable invertebrate populations due to the habitats present.

3.3.7 Protected and notable species summary

There were no signs or sightings of protected species within 50m of the red line boundary of the project.

There is some potential for protected and notable species within 50m, including:-

- Potential for nesting birds in hedges, shrubs and outbuildings: high.
- Potential for foraging terrestrial mammals: low-moderate (especially hedgehog)
- Potential for foraging and dispersing amphibians (widespread species only): moderate
- Potential for dispersing natterjack toads: very low

3.4 Invasive species survey results

Rosa rugosa (Japanese rose) was recorded on site in the central hedgerow, as well as several other garden escape species. Japanese rose is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), meaning that it is illegal to allow its spread in the wild.

4. SURVEY CONCLUSIONS

The features of ecological interest or concern which could affect, or be affected by the proposed works are:-

- **Terrestrial habitat for amphibians**

  It is considered very unlikely that natterjack toad would be encountered on site, but as it is a legally protected species the precautionary principle should apply and sensitive methods of work are recommended.

  These precautionary methods would also benefit any other amphibian species that could be present on the site by ensuring that risk of injury is minimal.

- **Nesting birds**

  All bird species are fully protected whilst making a nest, incubating eggs and raising chicks, and as there is suitable habitat for breeding birds around the property (including hedges and outbuildings). Timing constraints should be closely followed, and if any demolition or vegetation clearance needs to be done in the nesting season (early March to end August), then an ecologist needs to be consulted.

- **Terrestrial mammals**

  Hedgehog are known to be present in the local area, and the vegetation on site (overgrown garden and field) provides good habitat for these animals. Precautionary methods of work should be followed to ensure that any vegetation clearance will not impact on this species.

- **Nearby protected sites**

  The proximity of Duddon Estuary SSSI (and the associated SAC and SPA), and nature of the proposals (change of land use), means that the Planning Authority will need to consult with Natural England about this application.

If avoidance and mitigation measures (detailed below) are followed, then there should be no net negative impacts on any protected wildlife group at the local scale as a direct consequence of the works outlined in section 1.3 above.

5. RECOMMENDATIONS

5.1 Recommendations for further survey

No specific ecological surveys are required for the proposals outlined in section 1.3 of this report, provided that works proceed adhering to the avoidance and mitigation measures detailed below.

5.2 Recommended avoidance and mitigation measures for ecological impacts not requiring further survey

Terrestrial amphibians
Amphibians are most active at night and in damp or humid conditions, and during the day they rest under debris (or often in burrows for natterjack toads). As the land is cleared and the outbuildings demolished any materials recovered from the ground (whether they have been there for months or just overnight) should be picked up carefully and checked underneath for any amphibians. If any are present they should be carefully picked up and moved out of harm's way (for example to a nearby hedgerow) unless natterjack toad is suspected (they have a pale yellow stripe down their back and are quite distinctive). If natterjack toads are found (or suspected to be present), all works should stop, and an ecologist be consulted for advice as to how to proceed legally with the works.

Breeding birds
All species of British birds are protected whilst in the process of nesting, as are their active nests and any eggs and chicks until fledged. There should be no trimming or felling of hedges, shrub, scrub or trees during the nesting season (this includes dense bramble and rose), or demolition of outbuildings. If any works do need to be carried out within the bird nesting season (generally accepted as 1st March until end of August), an ecologist should assess whether any breeding birds are present in and immediately around the proposed work.

Hedgehog
Hedgehogs are active from dusk, and shelter in dense vegetation or under debris/ decking during the day. They also hibernate (usually from November to March/ April) in dense vegetation or occasionally under debris or decking, or in artificial boxes. Dense areas of bramble provide ideal cover for these animals and, as this vegetation needs to be cleared in the autumn and winter to avoid nesting birds, the brambles should be cut back cautiously, checking by hand any areas on the ground that can't be clearly seen, which could host a sleeping hedgehog. If any hibernating hedgehogs are encountered, leave that area of vegetation and consult with an ecologist. If it is early in the season with the weather still mild and the hedgehog is active, then leave the clearance work, checking each day to see if it has moved on to find somewhere less disturbed to rest. If in doubt, please contact South Lakes Ecology who will provide advice as needed.

Lighting

There should be no external lighting on the new outbuilding, other than minimal downward pointing lights at access doorways, which should be activated by motion sensors. This is to protect the night skies, and reduce any light disturbance to nocturnal animals (including bats and insects).

6. Biodiversity Net Gain assessment

6.1 Rationale

The principles of Biodiversity Net Gain (BNG) are enshrined in local planning policy, and became a legal requirement for most developments from February 2024. The local planning authority (Cumberland Council) has requested a BNG assessment for this development, with a target increase of 10%. Habitats enhanced or retained as part of the BNG calculation need to be managed appropriately for a minimum of 30 years to satisfy the requirements of the metric.

The area of the proposed development, and nature of the proposals mean that the standard metric is not required, and the small sites metric can be used to calculate losses and proposed gains. DEFRA's statutory small site metric was used. Detailed results are in the appendices and the Excel file with detailed calculations is attached separately.

6.2 Recommended measures

The areas of the respective habitats on site will be broadly similar, with a slight gain of garden habitat following the removal of the outbuildings and hardstanding. This gain is slight, however, and additional measures are needed to achieve the required 10% gains. Though there are no impacts on hedgerows, there is still a requirement for a 10% gain in this feature to satisfy the metric as the feature is inside the planning boundary.

Planting of 13 trees in the garden, and extension of the hedge by 22m (behind the new outbuilding) will achieve the required 10% gains in both habitat and hedgerow units. The hedge should be planted with native species, and the trees should either be native or otherwise beneficial to wildlife (such as fruit trees). Figure 5 in the Appendices gives an overview of the proposed site layout after works are complete (no changes proposed to field in the northern part of the site).

6.3 Metric calculations and conclusions

The proposed development will result in the net loss of approximately 4m² of urban vegetated garden (overall loss of 304m² under the new outbuilding and access road, and gain of 301m² after re-instatement of garden on existing hardstanding).

The total land area in the planning application has to be included in the metric, so despite the small overall losses the planting of 13 trees is required to provide an additional 0.1588 units and therefore achieve a net 10% gain in habitat units.

A copy of the headline results page of the BNG calculation is shown in Figure 3 overleaf. These indicate that the planting of 13 trees, and the additional 22m of hedgerow will provide 10.62% gain in habitat units and 12.81% gain in hedgerow units.

Figure 3. Headline results from BNG metric

Site Name		Land NW of Poolside, Haverigg
Sheet Name		Headline Results
Headline Results		
Headline		BNG Targets Met ✓
Trading Rules		Trading Rules Satisfied ✓
Next steps		Check for input errors/rule breaks present in the metric ⚠
Baseline Units	*Area habitat units*	1.4962
	Hedgerow units	0.5750
	Watercourse units	Zero Units Baseline
Post-development Units	*Area habitat units*	1.6550
	Hedgerow units	0.6486
	Watercourse units	0.0000
Total net unit change	*Area habitat units*	0.1588 ✓
	Hedgerow units	0.0736 ✓
	Watercourse units	0.0000
Total net % change	*Area habitat units*	10.62% ✓
	Hedgerow units	12.81% ✓
	Watercourse units	% target not appropriate

7. Implementation and monitoring

7.1 Planting plan

7.1.1 Hedgerow extension

The proposed new hedgerow will be behind the new outbuilding, acting as a screen for neighbouring properties, and will link into the existing hedgerow forming the north-eastern boundary. It should be planted once the bulk of the demolition and construction work is completed (to avoid any damage to the new plants). It is a short length of hedge, but it can still host a diversity of native species. Suitable species that can cope with the coastal conditions include hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*) and elder (*Sambucus nigra*).

A mix of 30% blackthorn, 30% hawthorn, 10% elder, 10% crab apple, 10% hazel and 10% dog rose (*Rosa canina*) is recommended.

All plants purchased should be UK native species, certified disease free and UK grown from a reputable supplier.

The hedgerow should be planted between November and March, but not in frozen ground.

1. Prepare the ground – removing all surface vegetation and perennial weeds.

2. Keep the rootstock of the young trees damp until they are planted, to maximise survival.

3. Plant the seedlings in a staggered double row, 5 per metre. The 22m hedge will require 110 saplings (33 each of blackthorn and hawthorn, and 11 each of crab apple, hazel, elder and dog rose).

4. Voles and rabbits are likely to nibble on the young trees – so they should be planted with protection tubes until they are well established.

5. The new plants shouldn't need watering, unless there is extreme dry weather in the early part of the growing season (April- May).

7.1.2 Tree planting

Thirteen young bare-rooted trees (1.25-1.5m height) should be planted over the winter months (November to March), with a minimum gap of 2.5m between trees to allow them to develop full crowns. Figure 5 in the Appendices gives a suggestion of planting locations, but these can be anywhere within the red line boundary.

Species can be any locally native species – such as rowan *Sorbus aucuparia*, Sessile oak *Quercus petraea,* bird cherry *Prunus padus,* wild cherry *Prunus avium,* crab apple *Malus sylvestris* or sycamore *Acer pseudoplatanus (accepted native species)*. Alternatively fruit trees could be planted of any variety – such as apple, pear, cherry, plum or damson.

As for the new hedgerow, the new saplings will require protection from voles but shouldn't need watering unless there is extreme dry weather during the early part of the growing season.

7.2 Management plan

7.2.1 Hedgerow

The new hedgerow should be permitted to grow tall and thick, to maximise its biodiversity value (ideally 1.5m high and 1.5m wide to attain good condition status). Trimming should be carried out only when necessary, but not between March and August as this is the bird nesting season.

All tree tubes should be removed and composted/ recycled as appropriate once the hedge is suitably established (probably after 2-3 years).

7.2.2 Trees

The trees should be permitted to grow tall and develop full crowns, and only be pruned when necessary. As for the hedgerow, tree tubes should be removed once they are established, as should any support stakes (ensuring that the young trees develop suitably strong roots without relying on the additional support).

7.3 Monitoring

Hedgerow plants and trees should be checked annually each spring to check on establishment and survival. Any failed saplings should be replaced the following autumn.

8. REFERENCES

Bat Conservation Trust (2023) *Bat Surveys - Good Practice Guidelines* 4th edition. Bat Conservation Trust, London

Beebee T. (2013) *Amphibians and Reptiles* Pelagic Publishing

Butcher B., Carey P., Edmonds R., Norton L. and Treweek J. (2020) The UK Habitat Classification User Manual version 1.1 www.ukhab.org

Cumbria Biodiversity Data Centre https://www.cbdc.org.uk/data-services/cumbria-biodiversity-evidence-base/cbeb-interactive-map/

DEFRA BNG Metric – current version at https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides

DEFRA (2007) *Hedgerow Survey Handbook*

Gent A.H & Gibson S.D. *eds* (2003) *Herpetofauna Workers Manual* JNCC

Harris S. & Yalden D.W. (eds.) (2008) *The Handbook of British Mammals*, third edition Blackwell Scientific Publications, Oxford

Halliday G. (1997) *A Flora of Cumbria* University of Lancaster

Institute of Ecology and Environmental Management, Professional Guidance Series (CIEEM www.cieem.net) [Members only]

Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines* English Nature, Peterborough

Mitchell-Jones, A.J. & McLeish A.P. (2004) *The Bat Workers' Manual* 3rd Edition. JNCC, Peterborough.

NCC (1990) *Handbook for Phase 1 Habitat Survey* JNCC Peterborough

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

Preston C.D., Pearman D.A. & Dines T.D. (2002) *New Atlas of the British and Irish Flora* Oxford University Press

Stace C.(2010) *New Flora of the British Isles* 3rd edition Cambridge University Press

Stott, M. *et al* (2002) *The Breeding Birds of Cumbria: a tetrad atlas 1997-2001*. Cumbria Bird Club

www.magic.gov.uk (Information on priority habitats, species and protected sites)

www.jncc.defra.gov.uk (Information on legal framework, BAP species and habitats)

Natural England Species Information Note SIN006 (2011) *Otter- European Protected Species* www.publications.naturalengland.org.uk

APPENDICES

Figure 4: Habitat map – as existing

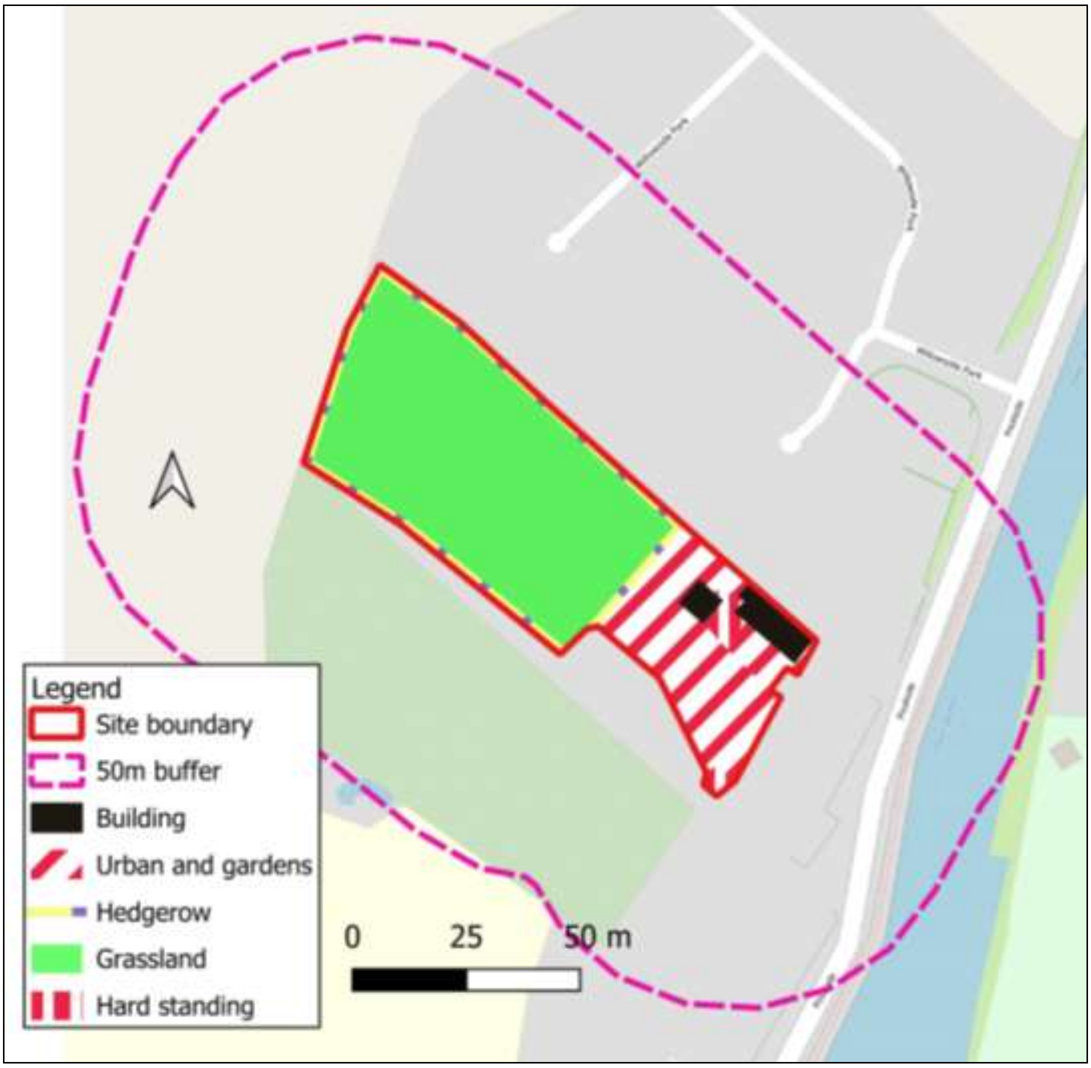

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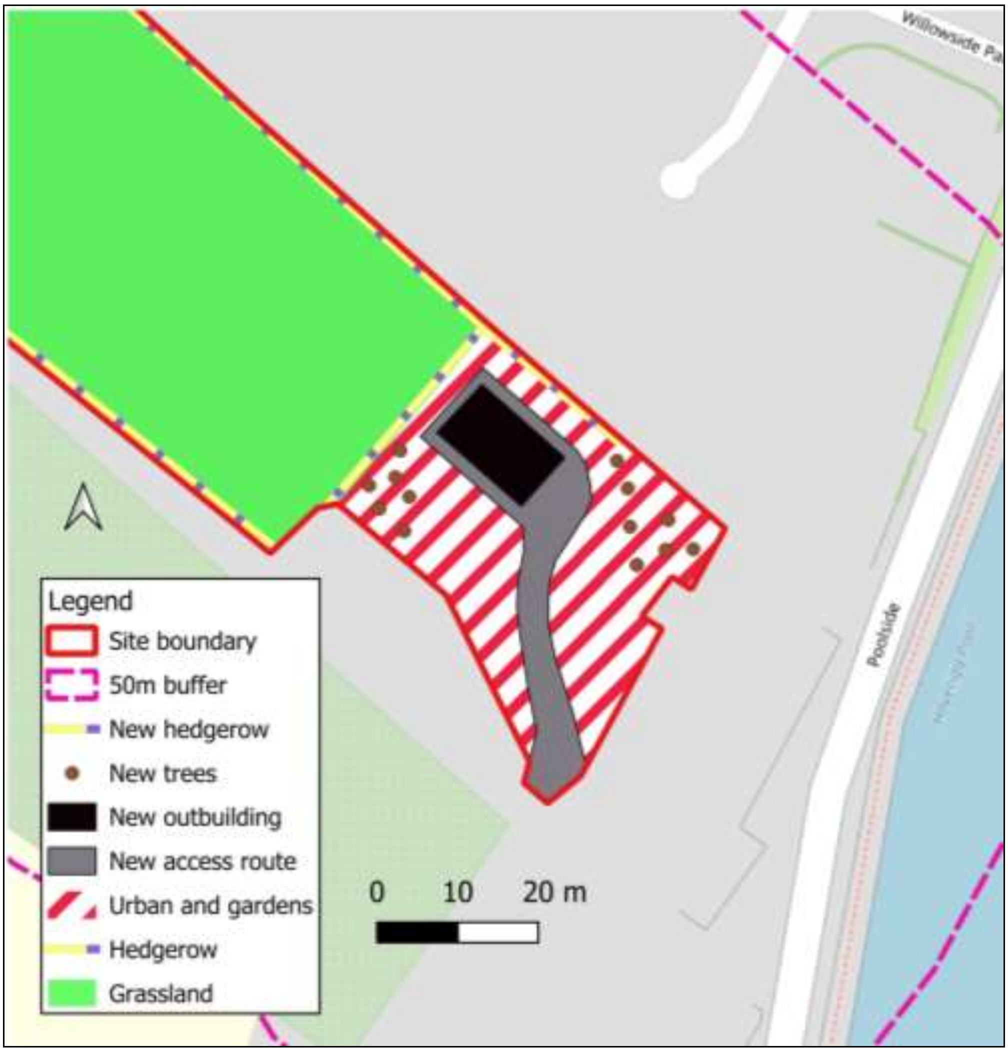
Figure 5: Habitat map – after works



Description of Wildlife Law and Legislation referred to in this document

National Planning Policy Framework (2018)
Current guidance recommends that planners ensure that all new developments:
- minimise impacts on biodiversity and protected sites
- result in a local net gain in biodiversity
- safeguard wildlife-rich habitat and wider ecological networks
- promote conservation/ restoration and enhancement of priority habitats and ecological networks
- promote protection/ recovery of priority species

Nesting birds
Under Section 1 of the Wildlife and Countryside Act 1981 (as amended), wild birds are protected from being killed, injured or captured. Under this legislation their nests and eggs are also protected from being damaged, destroyed or taken (this includes nests in the process of being built as well as those with eggs and/or chicks in).

Birds which are listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are protected by special penalties at all times. Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

Bats
Bats have declined in numbers dramatically across the UK and Western Europe in recent decades. Key factors linked to their decline are loss of roosting places due to building works and woodland destruction. Other factors implicated in their decline are changes in the countryside resulting in habitat loss and greater fragmentation of foraging habitats, and severing of commuting flightlines due to transport developments and hedgerow destruction.

As a consequence of these significant declines, bats and their roosts are protected under British and European law.

All bats are listed under Annexe IV of the EU Habitats Directive, and some under Annexe II. This law is transposed into English law into the Conservation of Habitats and Species Regulations (2010). Bats are also protected in the UK under the Wildlife and Countryside Act 1981 (as amended).

As a result of the above legislation it is an offence to;
- Deliberately capture, injure or kill a bat,
- Disturb a bat such that their survival, reproductive capacity, or the well being of the local population is affected
- Intentionally or recklessly disturb a roosting bat, or block access to its roost.

Reptiles
The four widespread species of reptile (common lizard, slow-worm, grass snake and adder) receive partial protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(5). It is an offence to intentionally kill, injure, sell, or to advertise for sale, any of these species without an appropriate licence. Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

Amphibians
The four widespread species of amphibian (common frog, common toad, smooth newt and palmate newt) receive partial protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(5). It is an offence to sell or possess (dead or alive) these species. Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

Great crested newts and natterjack toads are European Protected Species, and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2010 and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence for anyone intentionally to kill, injure or disturb a great crested newt or natterjack toad, to possess one (whether live or dead), or sell or offer for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by great crested newt for shelter.

Red Squirrel
Red squirrels have been declining in Britain for many decades, largely as a consequence of the introduction of grey squirrel. They currently receive full protection under the Wildlife and Countryside Act 1981 (as amended).

Red squirrels and their resting places are fully protected in Britain, it is an offence to deliberately, capture, injure or kill them or to damage, destroy or obstruct their breeding or resting places; it is also an offence to disturb them in their breeding or resting places.

Otter
Otter, their breeding sites and resting places are protected under Schedule 5 of the WIldlie and Countryside Act 1981 (as amended). They are also a European Protected Species - under the EC Habitats Directive, (transposed into domestic law through the Conservation (Natural Habitats &c) Regulations 1994 (as amended).

It is an offence to disturb, harm or kill an otter, or damage their breeding or resting places.

Badger
Badger is a protected species under the Protection of Badgers Act 1992 which makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so; or to recklessly interfere with a sett. Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

Guidance as to best working practices around badger setts have been developed, to minimise disturbance to these animals.

Biodiversity Action Plans – Species and Habitats
The UK Biodiversity Action Plan (UK BAP) was published 1994, in response to the Convention on Biological Diversity (CBD), which the UK signed up to in 1992 in Rio de Janeiro. National and Local action plans were developed for the most threatened species and habitats.

The plans, and species and habitats to which they related are reviewed and updated regularly. The current lists can be found on the JNCC website. These have now been succeeded by NERC Act 2006 (see below) but are still commonly used for guidance.

Natural Environment and Rural Communities (NERC) Act 2006
Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act. This purpose of this list is to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

56 habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. There are 943 species of principal importance included on the S41 list. As above, these are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

Hedgerow Regulations (1997)
These protect countryside hedgerows from being uprooted, grubbed out or otherwise destroyed. Local planning authorities need to be consulted, and an application made to remove any hedgerow (or section of a hedgerow) under these regulations.

Permission may be refused if the hedgerow concerned is deemed ‘important’.
There are many criteria for designating an important hedgerow, focussing on features such as archaeological value, historical and cultural value and ecological value. To be of ecological importance the hedgerow must have a minimum number of native woody species as well as some associated features of interest and/or support certain protected species of animal or plant. Further information about the criteria can be found at:
www.gov.uk/countryside-hedgerows-regulation-and-management or
http://www.legislation.gov.uk/uksi/1997/1160/contents/made .