

Preliminary Ecological Appraisal of:

Land to the south of The Old Mill
Harbottle
Northumberland

Prepared for:

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1.0 EXECUTIVE SUMMARY

1.0.1 Dendra Consulting Ltd was commissioned by Spence & Dower Chartered Architects to undertake an ecological appraisal of a plot of land in Harbottle, Northumberland. The appraisal was requested in order to inform proposals for the construction of a new dwelling in the north-west corner of the site.

1.0.2 The site consists of an area of grassland enclosed by fencing, with several scattered boundary trees. In total, five broad habitat types were identified under the Phase 1 Survey Handbook definitions.

1.0.3 No impacts on designated nature conservation sites are anticipated, and no controlled invasive plant species listed under Schedule 9 (part ii) of the Wildlife and Countryside Act (1981), as amended, were noted during the site walkover survey.

1.0.4 Overall, only very limited opportunities for protected species are offered by the site. However, the following recommendations have been made:

- The site offers some limited suitable terrestrial habitat for great crested newt. To avoid the killing or injuring of individual newts, works should proceed following a working method statement (provided as Appendix 3).
- Two mature Ash trees on the western boundary of the site have been assessed as having a low potential to support roosting bats. It is recommended that the contractor employed to conduct the tree felling works has received bat awareness training.
- Working methods should be adopted to prevent the killing or injuring of Hedgehog during the vegetation clearance and construction works.
- Vegetation clearance/tree felling works should be undertaken outside of the bird nesting season of mid-March to August inclusive, or the site will need to be inspected by a suitably qualified ecologist immediately prior to clearance.
- The planting of a hedgerow of native shrub/tree species on the western boundary of the site will compensate for the loss of scrub and scattered trees.
- One Schwegler 1SP sparrow terrace nest box should be erected on the new building to mitigate for any potential loss of bird nesting opportunities within the site.

2.0 INTRODUCTION

2.1 Background & Scope

2.1.1 Dendra Consulting Ltd was commissioned by Spence & Dower Chartered Architects to undertake a preliminary ecological appraisal of a plot of land to the south of The Old Mill, a residential property located in the village of Harbottle in Northumberland. The appraisal was requested in order to inform proposals for the construction of a new dwelling in the north-west corner of the plot.

2.2 Details of Proposals

2.2.1 It is proposed to construct a new detached dwelling in the north-west corner of the site.

2.3 Site Location and Setting

2.3.1 The site is located to the south of the rural village of Harbottle, located within Northumberland National Park. The approximate grid reference is NT933045. The approximate altitude is 143m AOD. The site is accessed from the driveway of The Old Mill private dwelling and consists of an area of unmanaged grassland formerly used as a village cricket pitch, enclosed by fencing, with scattered boundary trees. The grassland was last used as a cricket field approximately 12 years ago, and was cut for hay in 2018 (personal comment, Susan Bolam, 10th January). The site is bounded by a residential property to the north, extensive lawned gardens to the east and west and by a small pocket of woodland to the south. A small stream named as Back Burn lies approximately 75m south of the site boundary and the River Coquet lies approximately 230m to the north-east. The wider environment comprises of areas of grassland and moorland with substantial areas of plantation woodland. Figure 1 shows the site location and surrounding area.

Figure 1 – OS map of the site and surrounding area. Not to scale.



3.0 METHODOLOGY AND LEGISLATION

3.1 Supporting Data

3.1.1 The Environmental Records Information Centre (ERIC) North East was contacted for information regarding protected species and nature conservation sites within 2km of the proposed development site. Google Earth and the Multi Agency Geographic Information for the Countryside (MAGIC) website were accessed to study aerial imagery of the site and the surrounding area. An OS map was purchased and is attached as Figure 1.

3.2 Field Survey Methodology, Timing and Personnel

3.2.1 A site walkover survey was conducted on 10th January 2019 in accordance with the standard Phase 1 Habitat Survey methodology (JNCC, 2010). The walkover field survey was carried out both across the site and, where necessary, over surrounding land, in order to establish broad habitat types and features of ecological interest that would provide potential for, or display evidence of, protected species. The information, using Target Notes where appropriate to provide supplementary information on features of interest within the site, was then mapped onto the Phase 1 Habitat Plan in Appendix 2, and used to determine the need for more detailed surveys.

3.2.2 The survey was undertaken by Shaun Morrison, an experienced ecologist who holds a Natural England Level 2 Bat Survey Class Licence (WML-CL18) and a Level 1 Great Crested Newt Survey Class Licence (WML-CL08). The weather conditions were calm and dry during the survey.

3.2.3 Trees within the site with the potential to be affected by the development were visually assessed in terms of their potential to support protected species. Similarly, any buildings on site to be affected by the development were assessed in terms of their potential to support bat species, adhering to guidance issued by the Bat Conservation Trust (Collins 2016).

3.2.4 Where appropriate, a Habitat Suitability Index (HSI) assessment was conducted of standing water bodies within 500m of the development site to assess the suitability of such water bodies for great crested newt. HSI assessments were carried out following the methodology set out by Oldham et al. (2000). The HSI assessment is a mathematical calculation, which attributes a numerical value to various habitat features and predicts the likelihood of great crested newt being present in a particular pond. The data is represented as a probability (between 0 and 1), with 0 being 'GCN presence highly unlikely' and 1 being 'GCN presence highly likely'.

3.2.5 During the site walkover survey a check for controlled invasive plant species listed under Schedule 9 (part ii) of the Wildlife and Countryside Act 1981 (as amended) was made. Under this Act, it is an offence to cause the spread or relocation to the wild of species such as Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandulifera* and giant hogweed *Heracleum mantegazzianum*.

3.3 Legislation

3.3.1 This assessment focuses on those species afforded full protection under the Conservation of Habitats and Species Regulations 2017, the Wildlife and Countryside Act 1981 (as amended) and the Protection of Badgers Act 1992. Also included within this assessment are those species considered to be of local and/or national importance through their designation as a local Biodiversity Action Plan (BAP) species or via their listing within Section 41 of the Natural Environment and Rural Communities Act 2006. A very brief summary of the protection that the current legislation provides is as follows:

3.3.2 The Conservation of Habitats and Species Regulations 2017 make it illegal to:

- Deliberately capture, injure or kill a European Protected Species (EPS).
- Deliberately disturb an EPS.^[*]
- Damage or destroy a resting place used by an EPS.

^[*]Disturbance of includes in particular any disturbance which is likely to:

- Impair their ability to survive, breed, reproduce, rear or nurture their young, hibernate or migrate.
- Affect significantly the local distribution or abundance of the species to which they belong.

3.3.3 The Wildlife and Countryside Act 1981 makes it illegal to:

- Intentionally kill, injure or take any wild bird.
- Intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built.
- Intentionally take or destroy the egg of any wild bird.
- Damage, destroy or obstruct any structure or place used for shelter by animals listed on schedule 5 of the act.
- Disturb animals listed on Schedule 5 when occupying a place used for shelter.

3.3.4 The Protection of Badgers Act 1992 makes it illegal to:

- Kill, injure or take a badger.
- Cruelly ill treat a badger.
- Interfere with a badger sett.

3.3.5 Under the Natural Environment and Rural Communities (NERC) Act (2006), all local authorities have a statutory obligation to conserve and enhance biodiversity when exercising their functions, including planning and development decisions. As such, this assessment also considers those priority species listed under Section 41 of the Act.

3.4 Limitations

3.4.1 The site survey was undertaken outside of the optimal survey period of late April to mid-October (JNCC, 2010), however it is believed that an accurate representation of the site has been made due to the common and widespread nature of the habitats present and the competency of the

surveyor. Therefore there are no significant limitations affecting the classification or evaluation of the habitats or ecological features present.

3.4.2 The HSI for great crested newts is a measure of habitat suitability, and is not a substitute for newt presence/absence surveys. As the HSI assessments were conducted in January, professional judgement has been used to estimate some of the indices. In general, ponds with high HSI scores are more likely to support great crested newts than those with low scores. However, the system is not sufficiently precise to conclude that any particular pond with a high score will support newts, or that any pond with a low score will not do so.

4.0 SITE SURVEY AND ASSESSMENT

4.1 Protected and Priority Species Records (Desk Study)

4.1.1 Consultation data received from ERIC North East revealed no protected or priority species records from the site itself, but does show a number of protected species within 2km of the development site. The closest records of each protected species are shown in Figure 2, below.

Figure 2 - Closest protected species records as provided by ERIC North East.

Species	Grid ref	Approx distance from site and direction	Additional Comments
Adder	NT923046	1.1km West	2016
Badger	NT9402	Within 2km	2008
Bat (Brown long-eared)	NT9503	Within 2km south-east	Hibernaculum, 2010
Bat (Common pipistrelle)	NT9304	Within 2km south-west	2012
Bat (Daubenton's bat)	NT9502	Within 2km south-east	Roost in church, 2004
Bat (Natterer's bat)	NT9503	Within 2km south-east	Roost in house, 2010
Bat (Noctule)	NT9206	Within 2km north-west	Foraging, 2012
Bat (Pipistrelle species)	NT9502	Within 2km south-east	Maternity roost in house, 2010
Bat (Soprano pipistrelle)	NT9304	Within 2km south-west	Maternity roost in house, 2012
Bat (Whiskered/Brandt's bat)	NT9503	Within 2km south-east	Roost in house, 2010
Common crossbill	NT920030	2km south-west	2000
Otter	NT929049	570m north-west	2011
Red squirrel	NT934048	120m north	1991
Scaup	NT916043	1.8km south-west	1992
Water vole	NT919057	1.85km north-west	2004
Whooper swan	NT916043	1.8km south-west	1992

4.1.2 In addition to those species above afforded legal protection, Figure 3 outlines those species recorded by ERIC NE within a 2km radius which are listed in the

Natural Environment and Rural Communities (NERC) Act (2006) or the Northumberland Biodiversity Action Plan.

Figure 3 – Records of NERC and local BAP priority species recorded within 2km search area.

Species	NERC	Local BAP
Anomalous	✓	
Atlantic salmon	✓	✓
Autumnal rustic	✓	
Black grouse		✓
Black oil-beetle	✓	
Brindled ochre	✓	
Brown hare	✓	
Brown trout	✓	✓
Bullfinch	✓	
Cuckoo	✓	✓
Curlew	✓	✓
Dark barred twin-spot carpet	✓	
Dark brocade	✓	
Deep-brown dart	✓	
Double dart	✓	
Dunnock	✓	
Dusky brocade	✓	
Goldfinch		✓
Goldcrest		✓
Grayling	✓	
Green brindled-crescent	✓	
Grey mountain carpet	✓	
Haworth's minor	✓	
Heath rustic	✓	
Hedgehog	✓	✓
House martin		✓
House sparrow	✓	✓
Jackdaw		✓
Juniper	✓	✓
Kestrel		✓
Lapwing	✓	✓
Large heath	✓	
Latticed heath	✓	
Minor shoulder-knot	✓	
Mistle thrush		✓
Mouse moth	✓	
Neglected rustic	✓	
Oystercatcher		✓

Pale eggar	✓	
Redshank		✓
Rook		✓
Sallow	✓	
Shaded broad-bar	✓	
Small heath	✓	
Song thrush		✓
Spotted flycatcher	✓	✓
Starling		✓
Swallow		✓
Swift		✓
Teal		✓
Tree pipit	✓	✓
Tree sparrow	✓	✓
White ermine	✓	
White-line dart	✓	
Woodpigeon		✓
Wood warbler	✓	

4.2 Statutory and Non-Statutory Nature Conservation Sites (Desk Study)

4.2.1 The site is located within the boundary of Northumberland National Park. All designated nature conservation sites within 2km of the proposed development site are provided in Figure 4 below.

Figure 4 – Designated wildlife sites within 2km.

Site	Status *	Approx distance from site and direction
Dove Crag Burn	LWS	1.8km south
Harbottle Moors	SSSI	150m south-west
Harbottle Moors	SAC	150m south-west
Holystone North Wood	SSSI	1.1km south-east
Northumberland	National Park	Located within the park
River Coquet and Coquet Valley Woodlands	SSSI	280m north-east

* LWS - Local Wildlife Site
SAC- Special Areas of Conservation

4.3 Field Walkover Survey

4.3.1 The site consists of an area of grassland enclosed by fencing, with several scattered boundary trees. In total, five broad habitat types were identified under the Phase 1 Survey Handbook definitions. These are:

- Fence (J2.4)
- Improved grassland (B4)
- Marshy grassland (B5)
- Scattered trees (A3)
- Scrub (A2)

4.3.2 Fence (J2.4)

The site is enclosed by a combination of post and rail, post and wire and stock fencing, with field gates present on the northern and southern boundaries.

4.3.3 Improved grassland (B4)

The majority of the site comprises of unmanaged improved grassland, currently in a transitional state from the former intensively managed amenity grassland of the cricket field (Photograph 1). The dominant species in the central section of the site are Perennial ryegrass (*Lolium perenne*) and Red fescue (*Festuca rubra*), with occasional Cocksfoot (*Dactylis glomerata*) and Creeping buttercup (*Ranunculus repens*). The sward is relatively short but gradually increases in height and becomes more rank as it approaches the site boundaries, creating 3 – 5m wide bands with Broad-leaved dock (*Rumex obtusifolius*), Cocksfoot, Common nettle (*Urtica dioica*) and Spear thistle (*Cirsium vulgare*), becoming more prevalent (Photograph 2).

4.3.4 Marshy Grassland (B5)

The southern end of the site is poorly drained and comprises of marshy grassland dominated by Soft rush (*Juncus effesus*), (Photograph 3). Other species only rarely found are Broad-leaved dock, Spear thistle and Tufted hair-grass (*Deschampsia cespitosa*).

4.3.5 Scattered Trees (A3)

Several scattered semi-mature and mature trees are located on, or in close proximity to the site boundaries (Photograph 4). The dominant species is Ash

(*Fraxinus excelsior*) with Elder (*Sambucus nigra*), Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Oak (*Quercus sp.*) and Sycamore (*Acer pseudoplatanus*) only rarely found. Four of the mature Ash trees on the western boundary of the site contain features with the potential to support roosting bats and have been identified as Target Notes 1 - 4. These features are summarised in section 4.5 below, discussed further in Section 5.3.3 and mapped on the Phase 1 Habitat Plan in Appendix 2.

4.3.6 Scrub (A2)

A small patch of scrub is present on the north-west corner of the site. The dominant species is Bramble (*Rubus fruticosus*) that is spreading out from the fence line (Photograph 5). Contained within the scrub are small stockpiles of waste building materials comprising of brick, wood and stone (Photographs 6 & 7). The waste stockpiles have been identified as Target Note 5 and discussed in detail in section 5.3.10.

4.4 **Controlled Invasive Species**

4.4.1 No controlled invasive plant species were noted during the site walkover survey.

4.5 **Target Notes**

4.5.1 Target notes provide supplementary information on features of interest within the site, and are marked on the Phase 1 Habitat Plan in Appendix 2. In summary the following features have been marked:

- TN1 - A small cavity approximately 3m up on the main trunk of an Ash tree in the north-west corner of the site.
- TN2 - A small cavity approximately 1.5m up on an Ash tree on the western boundary (Photograph 8).
- TN3 - A knothole on an upper limb of an Ash tree on the western boundary (Photograph 9).

- TN4 – A hollowed out base on an Ash tree in the south-west corner of the site (Photograph 10).
- TN5 – Stockpiles of waste building material in the north-west corner of the site (Photographs 6 & 7).

Photograph 1 – Improved grassland forming the majority of the site.



Photograph 2 – Broad-leaved dock and Common Nettle in the north-west corner of the site.



Photograph 3 – Marshy grassland at the bottom of the site.



Photograph 4 – Mature Ash trees on the western boundary of the site.



Photograph 5 – Bramble scrub in the north-west corner of the site.



Photograph 6 – Building waste in the section of scrub in the north-west corner of the site.



Photograph 7 –Brick/stone rubble marked as TN5 in Appendix 2..



Photograph 8 – Potential bat roosting feature marked as TN2 in Appendix 2.



Photograph 9 – Potential bat roosting feature marked as TN3 in Appendix 2.



Photograph 10 – Potential bat roosting feature marked as TN4 in Appendix 2.



Photograph 11 – Pond 1 located in rough grassland approximately 180m south-west of the site.



Photograph 12 – Pond 2 located in woodland approximately 250m south-west of the site.



Photograph 13 – Pond 3 located in woodland approximately 480m south-west of the site.



Photograph 14 – Pond 4 located in woodland approximately 360m south-west of the site.



Photograph 15 – Pond 5 located in woodland approximately 370m south-west of the site.



Photograph 16 – Pond 6 located in woodland approximately 400m south-west of the site.



Photograph 17 – Pond 7 located in woodland approximately 420m south-west of the site.



5.0 IMPACT ASSESSMENT

5.1 Statutory and Non-Statutory Nature Conservation Sites

5.1.1 There are six designated nature conservation sites within 2km of the proposed development site. The small scale of the proposals and the habitats present within the survey area survey are locally common and widespread and it is therefore considered that the proposals will not affect these designated nature conservation sites.

5.1.2 A review of SSSI Impact Risk Zones (IRZ), as determined by Natural England on the MAGIC website, concluded that a planning application for a single dwelling within an existing settlement is unlikely to pose a risk to SSSIs, the closest of which lies 150m to the south-west at Harbottle Moors, a site also designated as an SAC.

5.2 Priority Habitats

5.2.1 The habitats noted during the site walkover are all common and widespread in nature, both locally and nationally, with limited ecological value. The majority of the site consists of improved grassland, and no priority habitats were noted either within, or immediately adjacent to the site. No impacts on priority habitats are anticipated.

5.3 Protected and Priority Species

5.3.1 From the results of the Phase 1 Survey site walkover, the habitats present both on site and within the locality, the protected species records provided by the local records centre and the known current distribution of species across the UK, it is concluded that the site has limited potential for the majority of protected species. The site does not contain any watercourses, and therefore priority species of fish including Eel (*Anguilla Anguilla*), Lamprey (*Petromyzon marinus*) and (*Lampetra sp.*) and protected species such as white-clawed crayfish (*Austropotamobius pallipes*) will not be affected by the proposals. The habitats within the site are largely unsuitable

for reptiles, with the majority of the site comprising of relatively short grassland. No habitats of use to, or larval food plants associated with, specialist invertebrates were noted, and therefore it is highly unlikely the proposals would impact on such species. There are no badger setts within or adjacent to the site, and no badger field signs were noted. The site is considered potentially suitable for some protected and priority species, and these species have been given further consideration as outlined below.

5.3.2 Bats (*Chiroptera spp.*)

ERIC North East provided 13 roost records and 22 flight records from within a 2km search area of the centre of the site (Figure 2). There are no records from the site itself. The closest roost record is from 2012 for 137 Soprano pipistrelles in a residential property within the Harbottle area.

5.3.3 The mature trees on site were inspected from ground level for potential features suitable of supporting roosting bats, such as cracks, splits (for example where hazard beams occur), cavities, hollows, loose or flaking bark, included bark and knot, rot and woodpecker holes. Where possible any potential bat roosting features noted were inspected with a torch and/or an endoscope. The following potential roosting features were noted and are target noted on the Phase 1 habitat Plan in Appendix 2;

- TN1 - A small cavity approximately 3m up on south elevation of the main trunk of an Ash tree in the north-west corner of the site. This tree has been assessed as having a low potential risk to support roosting bats.
- TN2 - A small cavity approximately 1.5m up on the north elevation of an Ash tree on the western boundary (Photograph 8). When inspected with an endoscope the cavity continued vertically beyond the reach of the endoscope fibre optic cable. This tree has been assessed as having a low potential to support roosting bats.

- TN3 - A knothole on an upper limb of an Ash tree on the western boundary (Photograph 9). This tree has been assessed as having a low potential to support roosting bats.
- TN4 – A hollowed out base on an Ash tree in the south-west corner of the site (Photograph 10). When inspected with an endoscope multiple small chambers were noted extending vertically beyond the reach of the endoscope fibre optic cable. This tree has been assessed as having a low potential to support roosting bats.

5.3.4 The remainder of the mature trees within the site boundary have been classified as having a negligible potential to support roosting bats.

5.3.5 The potential of the site to be used by commuting and foraging bats was also assessed. The majority of the site comprises of improved and marshy grassland with some scattered trees, which all provide moderate foraging opportunities.

5.3.6 Birds (*Aves spp.*)

ERIC North East provided no records of rare or threatened birds from within the site boundary, but did provide 95 records relating to 44 species of rare and threatened birds within 2km of the site, with some species having multiple overlapping designations (see Figure 3). The records include; 3 species listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), which are afforded additional protection under this legislation, 28 red or amber listed birds (JNCC 2009), and 12 species which are also listed as priority species either under Section 41 of the NERC Act (2006) or within the Northumberland BAP (see Figure 3).

5.3.7 The scrub and scattered trees within the site boundary do provide potential nesting and roosting opportunities for more common nesting birds and the removal of these features could result in the loss of active nests, eggs or

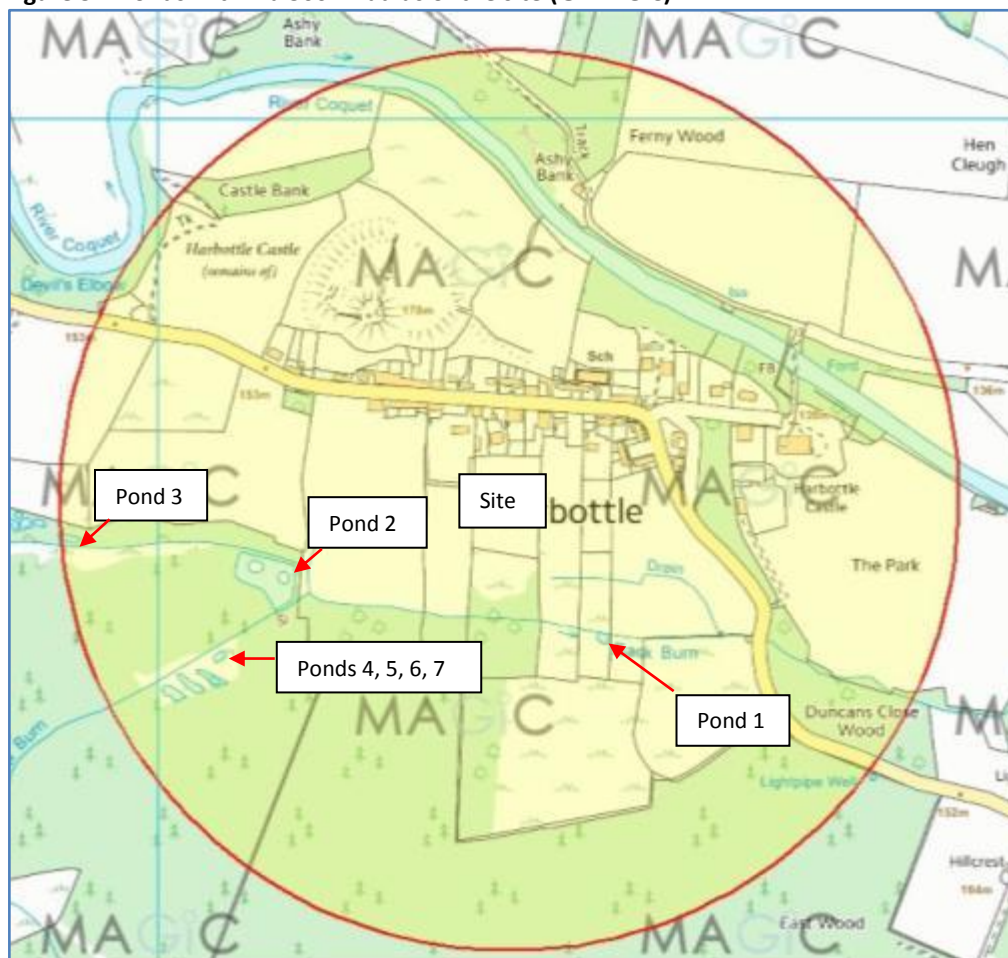
chicks and this constitutes an offence under the Wildlife and Countryside Act 1981 (as amended).

5.3.8 During the walkover survey visit a total of five bird species were seen to utilise the habitats within the site. Four of these species are green status birds (JNCC, 2009), meaning they occur regularly in the UK and are not considered of conservation concern; Blue tit (*Cyanistes caeruleus*), Carrion crow (*Corvus corone*), Great tit (*Parus major*) and Long-tailed tit (*Aegithalos caudatus*). Several House sparrow (*Passer domesticus*), a species of red conservation status concern (JNCC, 2009) and also priority species listing in the Local Biodiversity Garden Birds Action Plan, were noted in the garden of the residential property adjacent to the northern boundary of the site.

5.3.8 Great Crested Newt (*Triturus cristatus*)

ERIC North East provided two records of amphibians within a 2km search radius of the site. The data set did not include any records for Great Crested Newt (GCN). There are no ponds within the site boundary, however from viewing aerial imagery and OS maps of the surrounding area, seven ponds were identified within a 500m radius of the site (Figure 5).

Figure 5 – Ponds within a 500m radius of the site (© MAGIC).



5.3.9 A Habitat Suitability Index (HSI) survey of the seven identified ponds was conducted, with the results shown in Figure 6 below;

- Pond 1, located in rough grassland approximately 180m south-west of the site (Photograph 11). This pond appears to be fed from The Back Burn watercourse. The HSI assessment score of 0.78 indicates that the pond has a good suitability to support GCN.
- Pond 2, located in woodland approximately 250m south-west of the site (Photograph 12). Both the Drakestone and Coldlaw Burns are in close proximity to this pond. The HSI assessment score of 0.81 indicates that the pond has an excellent suitability to support GCN.
- Pond 3, located in woodland approximately 480m south-west of the site (Photograph 13). The HSI assessment score of 0.78 indicates that the pond has a good suitability to support GCN.

- Pond 4, located in woodland approximately 360m south-west of the site (Photograph 14). The HSI assessment score of 0.63 indicates that the pond has an average suitability to support GCN.
- Pond 5, located in woodland approximately 370m south-west of the site (Photograph 15). The HSI assessment score of 0.65 indicates that the pond has an average suitability to support GCN.
- Pond 6, located in woodland approximately 400m south-west of the site (Photograph 16). The HSI assessment score of 0.72 indicates that the pond has a good suitability to support GCN.
- Pond 7, located in woodland approximately 420m south-west of the site (Photograph 17). The HSI assessment score of 0.77 indicates that the pond has a good suitability to support GCN.

5.3.10 From records supplied by ERIC North East, GCN are not known to be locally present. The HSI pond assessments are limited to indicating the suitability of a pond to support GCN and cannot be used to determine presence or absence of this species. The section of scrub/stockpiles of building waste (Target note 5, Appendix 2), and the ranker areas of grassland in the north-west corner of the site do offer some limited terrestrial habitat for GCN. The current proposals indicate that this area will be cleared as part of the development plans. The two closest ponds, Ponds 1 and 2 are 180m and 250m away respectively. As GCN would need to traverse these distances through optimal habitat of rough grassland and mature woodland to reach the limited sub-optimal habitat of the development site, it is considered highly unlikely that GCN will be present within the development site boundary, however to minimise the risk of harming any individual GCN that may be present, a precautionary approach should be adopted. It is recommended that the works are carried out following a working method statement, a copy of which is provided as Appendix 3.

Figure 6 – GCN Habitat Suitability Index (HSI) for ponds located within 500m of the site.

	Pond 1	Pond 2	Pond 3	Pond 4	Pond 5	Pond 6	Pond 7
SI criteria	SI score	SI score	SI score	SI score	SI score	SI score	SI score
Factor 1 - Location	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Factor 2 - Pond area	0.20	0.80	0.15	0.10	0.15	0.40	0.40
Factor 3 - Permanence	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Factor 4 - Water quality	0.67	0.33	0.67	0.33	0.33	0.33	0.67
Factor 5 - Shade	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Factor 6 - Fowl	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Factor 7 - Fish	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Factor 8 - Pond count	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Factor 9 - Terrestrial	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Factor 10 - Macrophytes	0.70	0.50	0.90	0.35	0.30	0.30	0.30
HSI score	0.78	0.81	0.78	0.63	0.65	0.72	0.77

Habitat Assessment Categories	
HSI Score	Pond Suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 - 0.69	Average
0.7 - 0.79	Good
>0.8	Excellent

5.3.11 Otter (*Lutra lutra*)

ERIC North East provided 16 records for Otter from within a 2km search radius of the site, with 15 of the records associated with the River Coquet. The nearest suitable habitat for otter is the River Coquet, approximately 230m to the north-east of the site. The site is geographically separated from the River Coquet by Harbottle village and therefore it is considered otter are highly unlikely to be present within the vicinity of the site or affected by the proposals.

5.3.12 Water vole (*Arvicola amphibius*)

ERIC North East provided 1 record from Water vole from 2004, located approximately 1.85km north-west of the site. The nearest suitable habitat for Water vole is provided along the Back Burn watercourse, located approximately 75m south of the site and therefore it is considered this species is highly unlikely to be present within the vicinity of the site or affected by the proposals.

5.3.13 Red squirrel (*Sciurus vulgaris*)

The site is located within the buffer zone for the Kidland Forest Red squirrel Reserve. ERIC North East provided 81 records for Red squirrel from within a 2km search radius of the site. The closest record is from 1991 for a sighting approximately 120m north of the site, however several records are from 2015 for locations within 500m of the site. The site itself does not contain sufficient habitat to support a viable population and it is therefore considered unlikely that Red squirrel will be present within the site boundary.

5.3.14 West European hedgehog (*Erinaceus europaeus*)

During the site walkover survey no evidence hedgehog was noted, however ERIC North East provided 4 records of Hedgehog within 2km of the site, the closest of which is located approximately 220m south-east of the site boundary. The site itself and the adjacent residential gardens and grasslands

provide suitable foraging and sheltering habitat for this species, it is therefore likely hedgehog utilise the habitats on site.

6.0 RECOMMENDATIONS AND MITIGATION

6.1 Summary of Potential Impacts

6.1.1 In the absence of avoidance and mitigation measures, the proposals to construct a new dwelling on the site may result in the following potential impacts:

- Potential disturbance/injury/killing impacts on a European Protected Species (EPS), (Bats) during tree felling works, if present.
- Potential disturbance/injury/killing impacts on a European Protected Species (EPS), (GCN) during vegetation clearance works/removal of debris stockpiles, if present.
- Loss of nesting and foraging habitat for an assemblage of common bird species.
- Loss of foraging habitat for, and potential killing or injuring of a NERC Act listed species (hedgehog).

6.2 Recommended Further Survey Work

6.2.1 No further survey work of the site or surrounding area is deemed necessary.

6.3 NPPF and Mitigation Hierarchy

6.3.1 The National Planning Policy Framework is a statutory planning policy document focussing on land use development and protection. Chapter 11 of the NPPF sets out the national policy for conserving and enhancing the natural environment. Minimising impacts on biodiversity as well as providing net gains in biodiversity are key principles and planning applications may not be supported if significant harm cannot be avoided, mitigated or compensated for.

6.3.2 The mitigation hierarchy is a set of prioritised steps to alleviate environmental harm as far as possible through avoidance and mitigation of detrimental impacts. As a last resort, compensatory measures are proposed

where unavoidable residual impacts remain following avoidance and mitigation measures. Avoidance, mitigation, and where necessary, compensation measures for each of the potential impacts outlined in section 6.1 above are outlined below.

6.4 Avoidance

6.4.1 Nesting Birds

The redevelopment proposals will involve vegetation clearance works to the areas of scrub in the north-west corner of the site and the felling of several mature trees on the western boundary line. These works should be undertaken outside of the bird nesting season of mid-March to August inclusive. If it is considered necessary to undertake the works during the bird nesting season, the site will require an inspection by a suitably qualified ecologist immediately prior to commencement. **NOTE:** if active nests are found the works will not be allowed to proceed. This could impose a significant constraint on the project timetable, and therefore the primary recommendation is that any vegetation clearance is undertaken outside of the nesting season.

6.5 Mitigation

6.5.1 Bats

Under current industry guidelines (Collins 2016), 4 mature Ash Trees on the western boundary of the have been assessed as having a low potential risk to contain roosting bats. These potential roosting features have been marked as Target Notes 1 - 4 on the Phase 1 Habitat Plan in Appendix 2. The proposed plans for the site indicate that the trees marked as Target Notes 1 & 2 will need to be removed to accommodate the new dwelling. It is recommended that the contractor employed to conduct the tree felling works is suitably qualified and has received bat awareness training for arboriculture. The trees marked as Target Notes 3 & 4 will not be affected by the proposed works. The remaining trees on site are classified as having a negligible risk of

supporting roosting bats but could provide low value foraging potential. As a standard precaution the following emergency procedures below must be followed in the event that bats are found at any time during any future tree felling works.

- All works to that area of the site will stop and the consultant will be contacted immediately – Barry Anderson 0191 3719636. If the consultant cannot be reached the Bat Conservation Trust (BCT) should be contacted via their emergency helpline number 0845 1300 228.
- If the roost is still intact, or can be repaired, this should be done immediately with bats left *in situ*.
- Any injured bats, and bats which cannot be returned to the roost and may be vulnerable to inclement weather and/or predation, should be collected using gloved hands and placed into a suitable container with breathing holes. Anyone bitten by a bat should seek immediate medical attention.
- In all cases where bats are found, the Senior Nature Conservation Organisation (SNCO) must be informed: In this instance the appropriate body is Natural England. Telephone: 0300 060 2219.

6.5.2 Great Crested Newt

Only limited terrestrial habitat for GCN exists within the site, it is possible this species may pass through the site when migrating to and from breeding sites. It is recommended that, in order to avoid the potential killing or injuring of individual GCN, a working method statement is followed during the works. The working method statement is provided as Appendix 3.

6.5.3 Hedgehog

In order to ensure the gardens of the proposed residential properties remain available to hedgehogs post-construction, dividing fences should contain suitably sized holes (13cm x 13cm/5" x 5") to allow the continued movement of hedgehogs through the estate and wider environment. Working methods

should also be adopted to prevent the killing or injuring of this species during any vegetation clearance and construction works. It is therefore recommended that the works are undertaken in the following manner:

- Any piles of brash or debris (man-made or natural), either currently existing within the site or created during the construction phase, will be dismantled carefully by hand and checked for the presence of hedgehog prior to disposal.
- Any excavations left open overnight will incorporate a ramp (e.g. scaffolding board) of no less than 220mm in width, and inserted at an angle of no greater than 45°, to allow any hedgehog which fall in to climb out.
- If any hedgehogs are found on site at any time, gloves will be used to carefully move the individual(s) to a suitable area within the vicinity which is to remain unaffected by the development, e.g. scrub and woodland habitat beyond the site boundary.
- No insecticides will be used on site, and the use of herbicides will be minimised.

6.6 Compensation

6.6.1 To compensate for the loss of the scrub and several scattered trees, a soft landscaping scheme should be designed to provide a continuous length of hedgerow on the western boundary of the redevelopment site, making maximum use of insect friendly plants and native shrub and tree species of local provenance. Suitable species include, but are not restricted to, hawthorn, hazel, holly, rowan, downy birch, silver birch and dog rose. Larger tree species such as oak and ash should only be planted where a suitable stand-off distance (minimum 15m) can be applied to prevent tree/building conflicts in the future. Ivy can be of particular benefit to wildlife as the late flowering season of this species makes it a valuable source of nectar for many insects prior to hibernation, particularly bees and butterflies.

6.7 Enhancement

- 6.7.1 One of the core principles of the National Planning Policy Framework is that planning policies should recognise the intrinsic character and beauty of the countryside. Local plans should include strategic policies for the conservation and enhancement of the natural environment. To provide ecological enhancement at the site, it is recommended that a Schwegler House sparrow terrace nest box is erected on the north or east elevation of the new dwelling.

7.0 REFERENCES

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Viewed 9th January 2019

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Viewed 9th January 2019

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Viewed 9th January 2019





APPENDIX 1 - SPECIES LIST

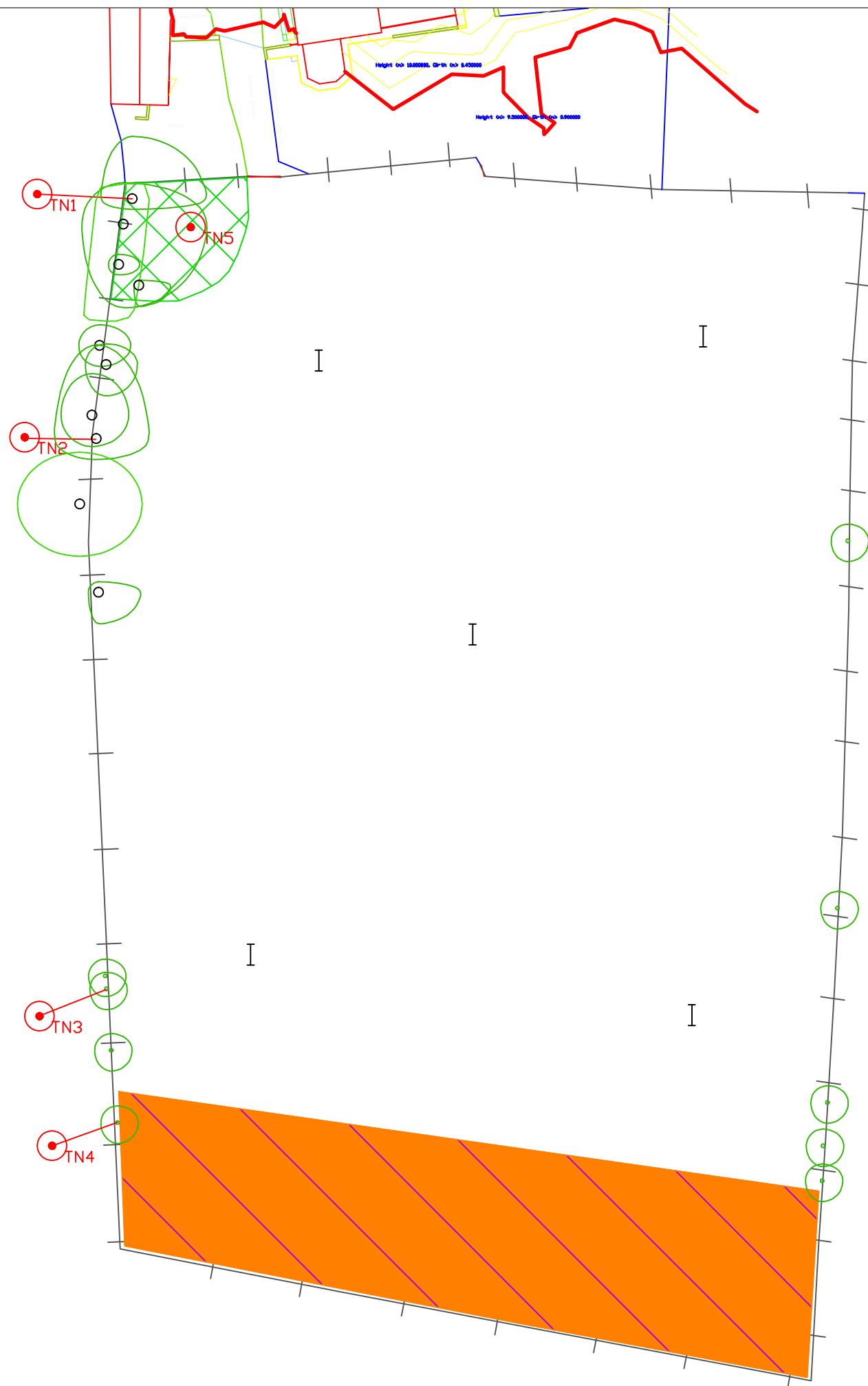
Common Name	Biological Name
Sycamore	<i>Acer pseudoplatanus</i>
Spear thistle	<i>Cirsium vulgare</i>
Hawthorn	<i>Crataegus monogyna</i>
Cocksfoot	<i>Dactylis glomerata</i>
Tufted hair-grass	<i>Deschampsia cespitosa</i>
Red fescue	<i>Festuca rubra</i>
Ash	<i>Fraxinus excelsior</i>
Holly	<i>Ilex aquifolium</i>
Soft rush	<i>Juncus effesus</i>
Perennial ryegrass	<i>Lolium perenne</i>
Oak	<i>Quercus sp.</i>
Creeping buttercup	<i>Ranunculus repens</i>
Bramble	<i>Rubus fruticosus</i>
Broad-leaved dock	<i>Rumex obtusifolius</i>
Elder	<i>Sambucus nigra</i>
Common nettle	<i>Urtica dioica</i>
<u>BIRDS</u>	
Blue tit	<i>Cyanistes caeruleus</i>
Carrion crow	<i>Corvus corone</i>
Great tit	<i>Parus major</i>
House sparrow	<i>Passer domesticus</i>
Long-tailed tit	<i>Aegithalos caudatus</i>



Appendix 2 Phase 1 Habitat Plan

Key

- A2 Scrub 
- A3 Scattered trees 
- B4 Improved grassland 
- B5 Marshy grassland 
- J2.4 Fence 
- Target note 



Project Details:
Land at Harbottle
Northumberland

Prepared for:
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Report ref: S&D_Harbottle_Eco1.2

Date: 25th January 2019

Scale: 1:500 @ A3

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APPENDIX 3

LAND TO THE SOUTH OF THE OLD MILL. HARBOTTLE

WORKING METHODS - GREAT CRESTED NEWT

Great crested newts (GCN) use ponds and other static water bodies to breed. However, adult GCN spend the majority of their time on land, where they forage in rough grassland, scrub and woodland and hibernate in holes in the ground, and log, stone, brash and rubble piles. Most GCN stay within 250m of their breeding ponds, however they can travel large distances between ponds and terrestrial habitat.

The site provides limited terrestrial habitat for GCN. No ponds are present within the site boundary, however a total of seven ponds have been identified within a 500m radius of the site, and therefore precautionary measures should be taken to avoid harming individual newts, if found. **All personnel on site should be aware of GCN and the legal implications of encountering them.**

Legislation

Under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010, it is an offence to:

- Deliberately capture, injure or kill an EPS
- Deliberately disturb an EPS^[*]
- Damage or destroy a breeding site or resting place used by an EPS

^[*]Disturbance of includes in particular any disturbance which is likely to:

- Impair their ability
 - to survive, to breed or reproduce, or to rear or nurture their young; or
 - to hibernate or migrate
- Affect significantly the local distribution or abundance of the species to which they belong.

Penalties for breaking the law can include large fines (£5000 per newt), imprisonment and the seizure of equipment, including plant and vehicles.

Working Methods

The following working methods should be adopted to prevent the killing or injuring of GCN:

- Upon commencement of works, materials stored on pallets (which require moving) will be carefully lifted. The ground beneath each pallet will be checked for GCN prior to any movement across the ground by people or machinery.
- No heavy objects (such as sheds or pallets) should be dragged across the ground. All items must be lifted and carefully placed in their new location.
- Any piles of brash or debris (man-made or natural), either currently existing within the site (Target Note 5, Appendix 2), or created during development, will be dismantled carefully by hand and checked for the presence of GCN prior to movement/disposal.
- No trenches or holes should be left open overnight so as to avoid pitfall capture of amphibians and other small wildlife. Should it be necessary for trenches or holes to remain open overnight, a wooden ramp will be placed inside the hole to allow animals to escape.
- Site personnel will remain vigilant for GCN throughout their day-to-day activities.

Identification



GCN are large newts (up to 17cm in length), are dark brown or black in colour, with a distinctly warty skin.



The underside is bright orange with irregular black blotches.

What to do if you see a great crested newt

If at any time during the works a great crested newt is seen, all works must stop and a suitably qualified ecologist must be contacted immediately.

At no time should an attempt to handle the great crested newt be made. Great crested newts are fragile and incorrect handling can cause injury/death.