Hartshead Moor Top, Scholes - Ecological Appraisal

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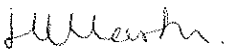

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Summary

Ecus Ltd was commissioned in May 2015 to undertake an ecological appraisal of an area of land situated within the wider Yorkshire Water Hartshead Moor Top Reservoir site in Scholes, West Yorkshire, ahead of redevelopment of the application site.

The site is a small area of land (~0.14 ha) situated at the south-east corner of the wider Hartshead Moor Reservoir site, located off the A649, Birkby Lane. The site comprises an area of species-poor semi-improved grassland with a hedgerow and a short section of hedgerow planting along the eastern and southern boundaries of the site.

All site habitats are considered to be of importance to nature conservation within the zone of immediate influence only.

Badger and hedgehog have potential to forage on the site from time to time. Therefore during development, all deep excavations should be covered overnight unless completely fenced off and any unfenced/uncovered shallow excavations should have a scaffold board or equivalent placed in them to one side to act as an escape ramp should badger or small mammals fall in.

Should hedgehogs be encountered during works, they should be allowed to move away of their own volition or carefully moved using gloved hands to suitable habitat outside the footprint of works.

Breeding birds have potential to use the hedgerow on site and therefore it is recommended that hedgerow clearance should take place outside the bird breeding season i.e. undertaken between September to February inclusive. If it is not possible to schedule clearance works for these months, a nesting bird check undertaken by a suitably qualified ecologist will be required no more than two days prior to clearance, to check for the presence of active bird nests.

Great crested newt are considered to be an unlikely receptor. No further survey is recommended, but as their presence for foraging cannot be completely ruled out, a precautionary approach to works to include a toolbox talk and phased clearance is recommended.

No invasive plant or animal species, including Japanese knotweed (*Fallopia japonica*), Indian balsam (*Impatiens glandulifera*) etc. were encountered on site on the day of survey.

No other ecological constraints have been identified during the ecological appraisal.

Ecological mitigation and enhancement recommendations appropriate to the site have been included within the report.

1. Introduction

1.1.1 Ecus Ltd was commissioned in May 2015 to undertake an ecological appraisal of a small area of land within the Yorkshire Water Hartshead Moor Top reservoir site in Scholes, West Yorkshire, ahead of proposed redevelopment of the site (centred around Ordnance Survey Grid Reference: SE 16560 24992).

1.1.2 The site is situated in the south-east corner of the wider Hartshead Moor Top Yorkshire Water site, which includes two large covered reservoirs. The site is dominated by species-poor semi-improved grassland, with a section of hedgerow present along the eastern and southern boundary and a short section of hedgerow planting in the south-western corner of the site.

1.1.3 An ecological walkover survey and assessment has been undertaken to review the habitats on site and the potential for the site to contain, or be used by, species protected under both UK and European nature conservation legislation, namely the Wildlife & Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2010.

1.1.4 This report details the findings of the ecological investigations. The methods of ecological assessment are described, including site surveys and evaluation. Recommended mitigation measures and the need for any further survey work are included as appropriate.

2. Methodology

2.1 Desk Study and Data Consultation

2.1.1 Data consultation was undertaken with West Yorkshire Ecology (WYE) in June 2015 as part of the ecological assessment to determine whether any sites, habitats or species of note had previously been recorded within 2 km of the site.

2.1.2 Natural England's Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk) was consulted in June 2015 for information on statutory designated sites of nature conservation interest within 2 km of the site.

2.1.3 Information obtained from WYE and MAGIC is included within the report as appropriate.

2.2 Extended Phase 1 Habitat Survey

2.2.1 The site was surveyed on 14th July 2015, by Ecus ecologist Sarah Unsworth using extended Phase 1 habitat survey methodology (JNCC, 2010). The habitats and vegetation types present were recorded and survey findings are presented in Figure 1. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all species occurring across the site.

2.2.2 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey.

2.2.3 Habitats present that are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and the local Biodiversity Action Plan (LBAP) for Kirklees District were noted.

2.2.4 Invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded, where seen.

2.2.5 The value and sensitivity of ecological features present on site were determined based on the guidance given in 'Guidelines on Ecological Impact Assessment' (IEEM, 2006). Individual ecological receptors (habitats and species that could be affected by the development) were assigned levels of importance for nature conservation within the zone of influence beginning at international level, moving down through UK, national, county, district, local, to lastly, zone of immediate influence only.

Hedgerows

2.2.6 Under the Hedgerow Regulations 1997, provision is made for the notification of "important" hedgerows. To qualify for notification, hedgerows must fulfil a range of criteria relating to their historical, landscape or wildlife character. In accordance with the Regulations, the intention to remove any hedgerow should be notified to the LPA via a hedgerow removal notice. The planning authority may issue a Hedgerow Retention Notice to prevent the loss of an "important" hedgerow. Where permission is granted to remove an "important" hedgerow, the LPA may impose conditions to mitigate the loss.

2.2.7 A hedgerow is defined as "...*any boundary line of trees or shrubs over 20 m long and less than 5 m wide, and where any gaps between the trees and shrub species are less than 20 m wide (Bickmore, 2002). Any bank, wall, ditch or tree within 2 m of the centre of the hedgerow is considered to be part of the hedgerow habitat, as is the herbaceous vegetation within 2 m of the centre of the hedgerow*."

2.2.8 The hedgerow on site was assessed under the landscape and wildlife criteria listed in Schedule 1 Part II of the Hedgerow Regulations 1997, using the standard methodology in the Regulations, which is detailed below.

2.2.9 For hedgerows of 30 m in length or less, the entire hedgerow is surveyed. Hedgerows of over 30 m are split in to 100 m sections and the central 30 m of each 100 m section is surveyed. The number of woody species present is recorded within each length along with the presence of any of the features listed in Sub-paragraph 4 of the Regulations, including presence of a bank, wall, or ditch, less than 10 % gaps, at least one standard tree per 50 m, at least three woodland plant species, at least four points achieved from connections to other hedgerows, woods or ponds, and/or a parallel hedge within 15 m.

2.2.10 A hedge is considered important under the Regulations if:

- It has an average of seven or more woody species in the surveyed section(s);
- It has an average of six woody species in the surveyed section(s) and three or more features from Sub-paragraph 4;
- It has six woody species and one of the following rare trees – black poplar, large leafed lime, small leafed lime, wild service tree;
- It has an average of five woody species on average in the survey section(s) and has four or more features from Sub-paragraph 4;
- It has four woody species on average in surveyed section(s), is adjacent to a footpath, bridleway or byway open to all traffic (BOAT) and has two or more features from Sub-paragraph 4.

2.3 Protected and Key Species Survey

2.3.1 All signs of protected species or groups encountered during the survey visit were recorded. This included observations of tracks, or other signs of species, that may be visible at the time of survey. The structure and quality of the habitats present were assessed for their suitability to support animal groups, paying particular attention to detecting signs of occupation by or suitability for protected species. In addition, a note was made of any observed species of conservation interest not protected by UK or European legislation. For full details of legislation relating to all habitats and species discussed within this report visit http://www.legislation.gov.uk.

Amphibians

2.3.2 A desk based search was undertaken for waterbodies within 500 m of the site, which are not separated from the site by a major barrier, using an Ordnance Survey (OS) map.

2.3.3 A total of six ponds within 500 m were identified, of which four were subject to Habitat Suitability Index (HSI) assessment (Oldham *et al*., 2000) in relation to

their suitability to support great crested newt (*Triturus cristatus*). This approach identifies readily observable habitat features in an objective model, which provides an informed view of the value of a site for great crested newt.

2.3.4 The site habitats were also assessed for their potential to support common amphibian species.

Badger

2.3.5 Signs of badger (*Meles meles*) activity were searched for within the site as part of the extended Phase 1 survey. Survey followed standard methodology detailed in Surveying Badgers (Harris et al., 1989). This included survey for badger setts, along with survey of linear features and boundaries for signs of badger activity including dung pits, foraging marks, feeding signs and pathways.

Bats

2.3.6 There are no buildings or trees on site to support roosting bats. Habitats within and adjacent to the site were assessed for their potential to be used by foraging and commuting bats.

Birds

2.3.7 Formal bird survey was not undertaken as part of this assessment, however whilst on site the opportunity was taken to record all species of birds encountered and to assess the suitability of the habitats present to support nesting and foraging birds.

Reptiles

2.3.8 The habitats present on site were assessed for their suitability to support basking, foraging and hibernating reptiles and for connectivity with other suitable habitat within the surrounding area.

Riparian mammals and white-clawed crayfish

2.3.9 A desk based search was undertaken for watercourses within 30 m of the site, which are not separated from the site by a major barrier, using an Ordnance Survey (OS) map.

2.3.10 No watercourses were identified within this distance and therefore otter (*Lutra lutra*), water vole (*Arvicola amphibius*) and white-clawed crayfish (*Austropotamobius pallipes*) are not considered to be receptors to the development and are not discussed further in this report.

Other protected and key species

2.3.11 The opportunity was taken whilst on the site to assess habitats for their potential to support any other nationally or locally scarce or otherwise notable species, or any species protected under national or international nature conservation law

2.4 Invasive species

2.4.1 During the extended Phase 1 habitat survey, the opportunity was also taken to record the presence of any invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), where

present.

2.5 Limitations to survey

2.5.1 It was not possible to access two ponds (P5 and 6) that lie within 500 m of the site on the day of survey due their location within private property, therefore these waterbodies have not been assessed for their suitability to support great crested newts.

2.5.2 No other limitations to survey were encountered. The survey was undertaken during the optimal botanical survey season and a robust judgement of the habitats present on site is considered to have been made.

3. Survey Findings

3.1 General Site Description

3.1.1 The site is approximately 0.14 ha in size and comprises an area of species-poor semi-improved grassland at the south-east corner of the Yorkshire Water Hartshead Moor Top reservoir facility. A hedgerow is present along the eastern boundary and a short section of hedgerow planting is present at the south-west corner of the site.

3.1.2 Two covered reservoirs lie to the north of the site, beyond which are a series of pasture fields and horse paddocks. Housing lies to the west and east of the site, following the line of the A649, Birkby Lane; a busy local road.

3.2 Sites of Nature Conservation Importance

3.2.1 No statutorily or non-statutorily designated sites of importance to nature conservation were identified within 2 km of the site using MAGIC or by WYE and therefore sites of nature conservation importance are not a receptor for the proposed development and are not considered further within this report..

3.3 Habitats

Species-poor semi-improved grassland

3.3.1 The site is dominated by short sward, species-poor semi-improved grassland. Species within this habitat include perennial rye grass (*Lolium perenne*), Yorkshire fog (*Holcus lanatus*), red fescue (*Festuca rubra*), creeping buttercup (*Ranunculus repens*), common daisy (*Bellis perennis*), ribwort plantain (*Plantago lanceolata*), red clover (*Triofolium pratense*), a cranesbill species (*Geranium* sp) and common ragwort (*Jacobaea vulgaris*).

3.3.2 Semi-improved grassland is not a habitat of principal importance listed under Section 41 of the NERC Act 2006, nor is it a local biodiversity action plan habitat. In addition, the semi-improved grassland within the site is species-poor and limited in extent and it is therefore not considered to be of importance to nature conservation outwith the zone of immediate influence.

Hedgerow

3.3.3 The hedgerow that runs along the eastern boundary and partway along the southern boundary of the site (H1, Figure 1) is approximately 27 m long and comprises part of a longer hedgerow that continues northwards, outwith the site. The hedgerow is unmanaged and does not include any trees, but comprises a variety of native species including hawthorn (*Crataegus monogyna*), dog rose (*Rosa canina*), field maple (*Acer campestre*), holly (*Ilex aquifolium*), hazel (*Corylus avellana*), dogwood (*Cornus sanguisorba*), and elder (S*ambucus nigra*).

3.3.4 A short section of hedgerow planting, approximately 10 m in length, is also present at the south-western corner of the site. This section of planting also comprises native species, however as it is less than 20 m long it is therefore not long enough to technically qualify as a true hedgerow. Therefore Hedgerow Regulations 1997 criteria and NERC Act 2006 criteria for consideration as a habitat of principal importance do not apply to this planting.

3.3.5 There are seven woody species within H1, however it is not considered to be of 30 years or more in age and therefore it does not qualify as Important under the Hedgerow Regulations 1997. As it comprises greater than 80% of more than one native species, it is classed as a habitat of principal importance under the NERC Act 2006 and it is species-rich, so is included as a priority habitat on the Kirklees LBAP. The hedgerow is restricted to boundary screening which does not form part of a wider hedgerow network and there is similar habitat in the immediate surrounding area, and is therefore considered to be of importance to nature conservation within the zone of immediate influence.

3.4 Species

Amphibians

3.4.1 West Yorkshire Ecology (WYE) returned 14 great crested newt records dating from 2007 and 2014, nine common frog (*Rana temporaria*) records, and 19 smooth newt (*Lissotriton vulgaris*) records. The great crested newt records are all located approximately 480 m north of the site's boundary. Several of the common frog records and the majority of smooth newt records are also from this area. These are the closest amphibian records to site.

3.4.2 A summary of the ponds located within 500 m of the site is shown in Table 1. Ponds 1-4 are immediately surrounded by semi-improved grassland which grades into scrub and young woodland. Pond 1 and P4 are lined, and P2 and P3 are shallow scrapes between the two larger ponds. A new housing development borders the ponds to the east, with pasture and horse paddocks to the south and west (Figure 2). Ponds 5 and 6 are located within active farmland.

Table 1. Summary descriptions of ponds located within 500 m of site

Pond Reference	Direction and distance from site	Description	Suitability for Great crested Newt
P1	490 m north	Large, oval pond, lined surrounded by semi-improved grassland, scrub and young woodland.	Good
P2	485 m north	Scrape situated in same environment as P1	Average
P3	485 m north	Scrape situated in same environment as P1	Average
P4	480 m north	Large rectangular pond, lined. Situated in same environment as P1	Average
P5	340 m west	Located in active farmland – not accessible	N/A
P6	390 m north-west	Located in active farmland – not accessible	N/A

3.4.3 Full details of the HSI scores for these ponds are shown in Appendix 2, however in summary, they indicate that Pond 1 has 'Good' suitability and P2,

3 and 4 have 'Average' suitability. However, through existing first-hand knowledge of the area that contains P1 to P4, it is known that these ponds were created as mitigation to offset the loss of an original pond, from which great crested newts were translocated.

3.4.4 There are no waterbodies within the site to support breeding great crested newt or common amphibians. The habitats on site offer only limited foraging opportunity, are suboptimal due to the managed nature of the habitat and there is alternative foraging habitat in the land to the north of the site, including the immediate area around Ponds 1, 2, 3 and 4. Given the lack of high quality habitat on site, the site's limited extent and that the site is situated near/at the further extent (500 m) of the distance that great crested newt are known to travel from breeding ponds, great crested newt (and common amphibians) are considered to be an unlikely receptor to the proposed development, however they cannot be ruled out completely.

Badger

3.4.5 Three badger records are present within 2 km of the site, the closest of which is over 700m from the site and separated from it by local and main roads.

3.4.6 No badger setts were recorded on site and there is no suitable habitat, such as dense scrub, for sett creation. The site is of limited extent, and fenced, however there is some potential for the grassland to be used by badger as part of a foraging resource and badgers occasional presence on site cannot be ruled out. However as there is an abundance of higher quality habitat present within the wider area to the north of the site the site habitats are not considered to be of importance to badger outwith the zone of immediate influence.

Bats

3.4.7 A total of 29 bat records were supplied by WYE from within 2 km of the site. These records include four noctule (*Nyctalus noctula*), five Leisler's bat (*Nyctalus leisleri*), and 13 common pipistrelle (*Pipistrellus pipistrellus*) sightings. All other records involved bats of unidentified species. The closest record to site is of a common pipistrelle roost located approximately 500 m to the north.

3.4.8 There are no buildings or trees on site to support roosting bats, therefore roosting bats are not considered to be a receptor to the scheme and they are not discussed further within this report.

3.4.9 The habitats on site are considered to provide limited foraging habitat for bats resident in the wider area, with the hedgerow providing the greatest potential. The site is limited in extent and there is higher quality habitat available within the wider area. Therefore the site is not considered to be of interest to foraging or commuting bats outwith the zone of immediate influence.

Birds

3.4.10 Records of 32 bird species of conservation concern present within 2 km of the site were provided by WYE, as shown in Table 2 below.

Table 2. Records of birds of conservation concern recorded within 2 km of the site supplied by WYE

Common Name	Scientific Name	Status	Utilise site habitats? Y/N
Barn Owl	*Tyto alba*	Schedule 1	N
Brambling	*Fringilla montifringilla*	Schedule 1	N
Fieldfare	*Turdus pilaris*	Schedule 1	N
Redwing	*Turdus iliacus*	Schedule 1	N
Grey Partridge	*Perdix perdix*	Red	N
House Sparrow	*Passer domesticus*	Red	Y
Lapwing	*Vanellus vanellus*	Red	N
Skylark	*Alauda arvensis*	Red	N
Song Thrush	*Turdus philomelos*	Red	Y
Starling	*Sturnus vulgaris*	Red	N
Tree Sparrow	*Passer montanus*	Red	Y
Yellow Wagtail	*Motacilla flava*	Red	N
Yellowhammer	*Emberiza citrinella*	Red	Y
Black - Headed Gull	*Larus ridibundus*	Amber	N
Bullfinch	*Pyrrhula pyrrhula*	Amber	Y
Common Gull	*Larus canus*	Amber	N
Dunnock	*Prunella modularis*	Amber	Y
Golden Plover	*Pluvialis apricaria*	Amber	N
Great Black-Backed Gull	*Larus marinus*	Amber	N
Grey Wagtail	*Motacilla cinerea*	Amber	N
House Martin	*Delichon urbica*	Amber	N
Kestrel	*Falco tinnunculus*	Amber	N
Lesser Black-Backed Gull	*Larus fuscus*	Amber	N
Meadow Pipit	*Anthus pratensis*	Amber	N
Mistle Thrush	*Turdus viscivorus*	Amber	Y
Redstart	*Phoenicurus phoenicurus*	Amber	N
Reed Bunting	*Emberiza schoeniclus*	Amber	N
Swallow	*Hirundo rustica*	Amber	N
Swift	*Apus apus*	Amber	N
Wheatear	*Oenanthe oenanthe*	Amber	N
Whitethroat	*Sylvia communis*	Amber	Y
Willow Warbler	*Phylloscopus trochilus*	Amber	N

3.4.11 In 2009, a re-assessment of Birds of Conservation Concern (BoCC) was published by Eaton et al. (2009), which defines rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.

3.4.12 “Red” is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50 %) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. “Amber” is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25 %) decline in breeding or non-breeding population or moderate decline in breeding range

over 25 years or more.

3.4.13 The records for within 2 km of the site include four Wildlife and Countryside Act 1981 (as amended) Schedule 1 species, 9 BoCC Red listed species, and 19 BoCC Amber species. The habitats on site are considered unsuitable for use by the Schedule 1 species due to its limited extent and short sward managed nature of the grassland dominating the site.

3.4.14 Birds observed on site on the day of the survey included magpie (*Pica pica*), house sparrow, and blue tit (*Cyanistes caeruleus*) House sparrow is a Red list species and blue tit and magpie are Green list (unthreatened) species.

3.4.15 The hedgerow on site has potential to provide nesting opportunities for nesting common urban and garden bird species. Site habitats will also provide foraging potential for a variety of bird species which have potential to use the site as part of a wider foraging resource.

3.4.16 Given the limited extent of the site and abundance of similar and higher quality habitat to the north and in neighbouring gardens, site habitats are considered to be of importance to nesting and foraging birds within the zone of immediate influence only.

Reptiles

3.4.17 No reptile records were returned by WYE and site habitats are unsuitable for the species, being dominated by short sward grassland with few areas of cover and no refugia. Given the limited extent of the site and absence of records in the area, reptiles are not considered to be a receptor for the proposed development and are not considered further within the report.

Other protected/notable species

Hedgehog

3.4.18 Three records of hedgehog (*Erinaceus europaeus*) were supplied by WYE. They are located between 1.2 km and 1.8 km west of the site.

3.4.19 The species-poor semi-improved grassland and hedgerow on site provides some foraging opportunities for hedgehogs and has connectivity with habitats to the west of the site, however the site is limited in extent and is therefore not considered to be of importance to hedgehog outwith the zone of immediate influence.

3.5 Invasive species

3.5.1 West Yorkshire Ecology provided records of Japanese knotweed (*Fallopia japonica*) and Indian balsam (*Impatiens glandulifera*) within 2 km of the site, however all records are located over 1 km from the site.

3.5.2 No invasive species were recorded on site on the day of survey.

4. Ecological Assessment & Mitigation

4.1 Proposed Development

4.1.1 No detailed plans for the redevelopment of the site were available at the time of writing. Early proposals are for the site to be developed as housing and total landtake of all site habitats are assumed for the purposes of the below assessment.

4.2 Habitats

Species-poor semi-improved grassland

4.2.1 Total landtake of the species-poor semi-improved grassland habitat is assumed. The grassland on site is species poor, limited in extent and there is abundant similar habitat in the wider area. Landtake of this habitat is not considered to be of importance to nature conservation outwith the zone of immediate effect.

4.2.2 To enhance the site following the development, an ecologically sensitive landscaping plan could be incorporated within the proposals. This has the potential to benefit invertebrates and birds and enhance the ecology of the proposed development, hereby complying with the National Planning Policy Framework (NPPF) aim that "opportunities to incorporate biodiversity in and around developments should be encouraged" (NPPF, 2012).

Hedgerow

4.2.3 Whilst the hedgerow does not form part of extensive hedgerow network, it provides varied habitat structure on site and will increase in value over time as it matures further. Given the limited extent of hedgerow on site, and abundance of similar habitat in the surrounding area landtake of the hedgerow on site would be considered to be of importance to nature conservation within the zone of immediate effect.

4.2.4 Retention of the hedgerow on site is strongly encouraged, as it provides structural diversity and increases biodiversity on the site. Whilst British Standard 5837 applies to trees in relation to construction, the same principal can be applied to hedgerow to be retained, through the implementation of a Root Protection Area (RPA). If it is retained, it is considered that the hedgerow would also benefit from infrequent management (trimming) to encourage a strong growth structure. It is recommended that any management be undertaken during autumn/winter months to avoid conflict with nesting bird constraints (see below).

4.2.5 Should hedgerow removal be unavoidable, replacement planting elsewhere on site, to comprise continuous lengths where possible, should be incorporated. A variety of native species would be ideal, or if a single species hedgerow is considered more appropriate, a single native species e.g. hawthorn (*Crataegus monogyna*) should favoured if possible.

4.3 Species

Amphibians

4.3.1 Great crested newts are a European Protected Species (EPS) and as such receive protection under The Conservation of Habitats and Species

Regulations (2010) and the Wildlife and Countryside Act (1981) (as amended). It is illegal to kill, injure, capture, handle or disturb them, and the places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed.

4.3.2 The likelihood of great crested newts using the site is considered to be low due to the suboptimal nature of the short sward grassland and the availability of higher quality habitat within the wider area, including within the immediate habitat around the known breeding ponds. Therefore landtake of the grassland on site is not considered to be of importance to great crested newt outwith the zone of immediate effects.

4.3.3 Whilst the risk of great crested newt presence on site is considered to be low, their presence cannot be completely ruled out due to the connectivity between the site and suitable habitats in the wider area to the north, and therefore a precautionary approach to site works is recommended. A toolbox talk, to include great crested newt identification aid, should be given to contractors prior to site preparation works e.g. vegetation clearance, and a phased clearance working from south to north during spring/summer months when newts would be active is encouraged to allow individuals to move away of their own volition.

4.3.4 The site does not include hibernacula features, therefore hibernating newts are not considered to pose a constraint to works undertaken during autumn/winter months.

4.3.5 In the unlikely event that a great crested newt is encountered on site at any time, works should cease immediately and an ecologist contacted for advice.

Badger

4.3.6 Badgers and their setts are protected under the Protection of Badgers Act 1992. It is an offence under the act to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a currently active badger sett, or to disturb animals within the sett.

4.3.7 Use of the site by badger is considered unlikely, but can not be completely ruled out. However, given the limited extent of the site and the availability of higher quality foraging opportunities off site, the site habitats are not considered to be of importance to badgers outwith the zone of immediate effect.

4.3.8 Given that badgers have potential to access the site from the surrounding area, a best practice approach to works is recommended. All deep excavations should be covered overnight unless completely fenced off and any unfenced/uncovered shallow excavations should have a scaffold board or equivalent placed in them to one side to act as an escape ramp should badgers or small mammals fall in.

Bats

4.3.9 All species of bat occurring within the UK are included in Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended). Under regulation 41 bats are protected from deliberate capture, injury or killing, from deliberate disturbance and from deliberate damage or destruction of a breeding site or resting place (roost).

4.3.10 All UK bats are also included on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). However, their protection is limited to certain offences. Under the 1981 Act (as amended) it is an offence to intentionally or recklessly disturb bats while they are occupying a structure or place used for shelter or protection, or to obstruct access to any such place.

4.3.11 Barbastelle (*Barbastella barbastellus*), Bechstein's (*Myotis bechsteinii*), brown long-eared, greater horseshoe (*Rhinolophus ferrumequinum*), lesser horseshoe (*Rhinolophus hipposideros*), noctule (*Nyctalus noctula*) and soprano pipistrelle (*Pipistrellus pygmaeus*) bats are included as priority species under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

4.3.12 Given the limited extent of the site and availability of higher quality foraging habitat in the wider area, especially to the north, landtake of site habitats would be considered to be of importance to foraging bats within the zone of immediate effect only.

4.3.13 Consideration could be given to enhancing the site post development through the incorporation of bat roosting provision incorporated within the proposed development to provide a benefit for nature conservation, in accordance with the NPPF. The nature conservation interest of the site could be enhanced through the provision of integral bat boxes/tubes e.g. Schwegler 1FR, installed at the construction stage. These provide access to a secure, discrete contained unit, without providing access into the cavity wall itself. Alternatively external bat boxes can be securely attached to building elevations post construction. Bat boxes should be attached at a minimum height of 3 m or ideally at eaves level, situated away from clutter or light spill and south facing bat boxes are likely to experience the highest level of use.

Birds

4.3.14 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) against destruction of the nest during the bird nesting season, which falls between March and August, inclusive.

4.3.15 The hedgerow planting and grassland on site provides nesting and foraging opportunities for local birds. However, given the limited extent of the hedgerow on site and abundance of alternative grassland habitat in the wider area, landtake of site habitats are not considered to be of importance to birds outwith the zone of immediate effect.

4.3.16 It is recommended that if any removal of hedgerow planting is required, it should be undertaken outside of the bird nesting season, i.e. undertaken between September to February inclusive. If it is not possible to schedule clearance works for these months, a breeding bird check undertaken by a suitably qualified ecologist will be required no more than two days prior to clearance, to check for the presence of active bird nests.

4.3.17 In accordance with best practice and where practicable, consideration could be given to incorporating bird nesting provision within any proposed development. The general purpose boxes should be attached at a minimum of 3 m from the ground, avoiding directly north or south-facing aspects. The final choice of provision and positioning should be discussed with an ecologist.

Other protected/notable species

Hedgehog

4.3.18 Hedgehog are listed as a species of principal importance on the NERC Act 2006 and whilst they are not legally protected, they are a species in decline and should be taken into consideration during works.

4.3.19 There is potential for hedgehogs to be active in the local area and site habitats provide foraging opportunities that they could move across at any time. Taking a best practice approach, any shallow excavations should have scaffold boards or equivalent placed in them overnight to one side of the trench to act as an escape ramp, should a hedgehog fall in.

4.3.20 Should a hedgehog be encountered during works at any time, it should be allowed to move away of its own volition or carefully moved by gloved hand to a suitable area outside the site, a suitable distance away from the footprint of works.

5. References

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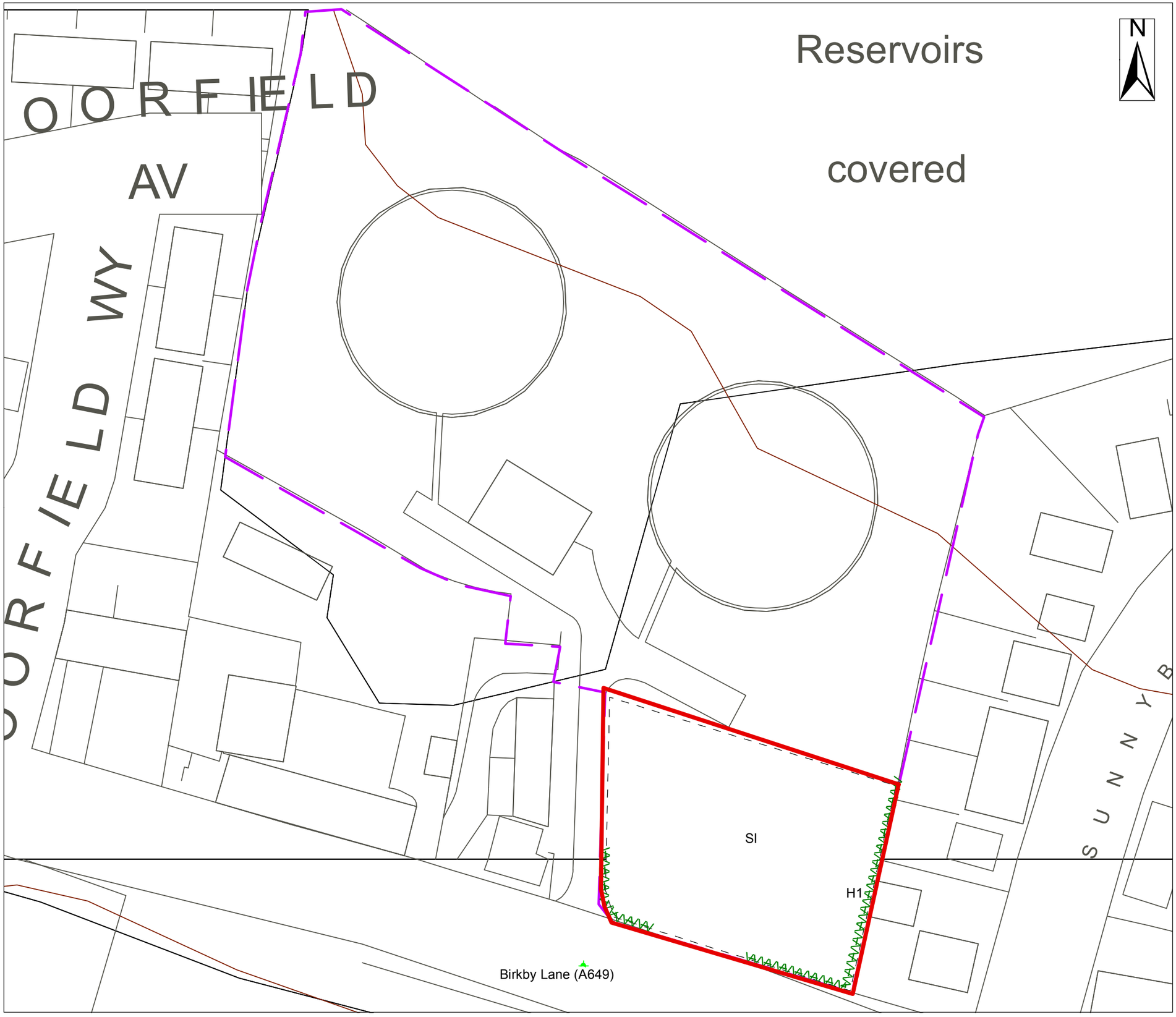
Figure 1. Survey Findings Plan



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Legend

- Boundary
- Hedgerow
- SI — Species-poor semi-improved grassland
- Wider Hartshead Moor Top Site

0 20 40
Meters

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Hartshead Moor Top, Scholes - Ecological Appraisal

Figure 1
Survey findings

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Date: July 2015 | Scale: 1:600 @A3 | Drg.Ref: SU/6247/1

Figure 2. Pond map

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Legend

Boundary

Pond and reference

0 110 220

Meters

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Hartshead Moor Top, Scholes - Ecological Appraisal

Figure 2
Pond map

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Appendix 1. Site photographs

Plate 1. Site viewed from northern boundary

Plate 2. Site dominated by species-poor semi-improved grassland

Plate 3. Section of hedgerow planting at south-west corner of site

Plate 4. Pond 1, 480 m north of the site

Plate 5. Pond 2, 480 m north of the site

Plate 6. Pond 4 ,

Plate 7. View north from edge of YW Hartshead Moor Top site towards the great crested newt record locations (480 m north of site boundary)

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Appendix 2
Site photographs

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Appendix 2. HSI Calculations Table

Table A2.1 HSI Scores

Pond No.	Grid Reference	Location	Area (m2)	Pond Permanence	Water Quality	Shade (%)	Waterfowl	Fish	Pond Density	Terrestrial Habitat Quality	Macrophyte Cover (%)	HSI Sum	Final HSI Score	Prediction (Likelihood of GCN)
1	SE 16604 25491	1	0.4	0.9	1	1	1	1	0.75	1	0.7	**0.19**	**0.85**	**Good**
2	SE 16608 25476	1	0.05	0.5	1	1	1	1	0.75	1	0.7	**0.01**	**0.65**	**Average**
3	SE 16591 25479	1	0.05	0.5	1	1	1	1	0.75	1	0.7	**0.01**	**0.65**	**Average**
4	SE 16591 25479	1	0.4	0.9	1	1	1	1	0.75	1	0.2	**0.05**	**0.75**	**Average**