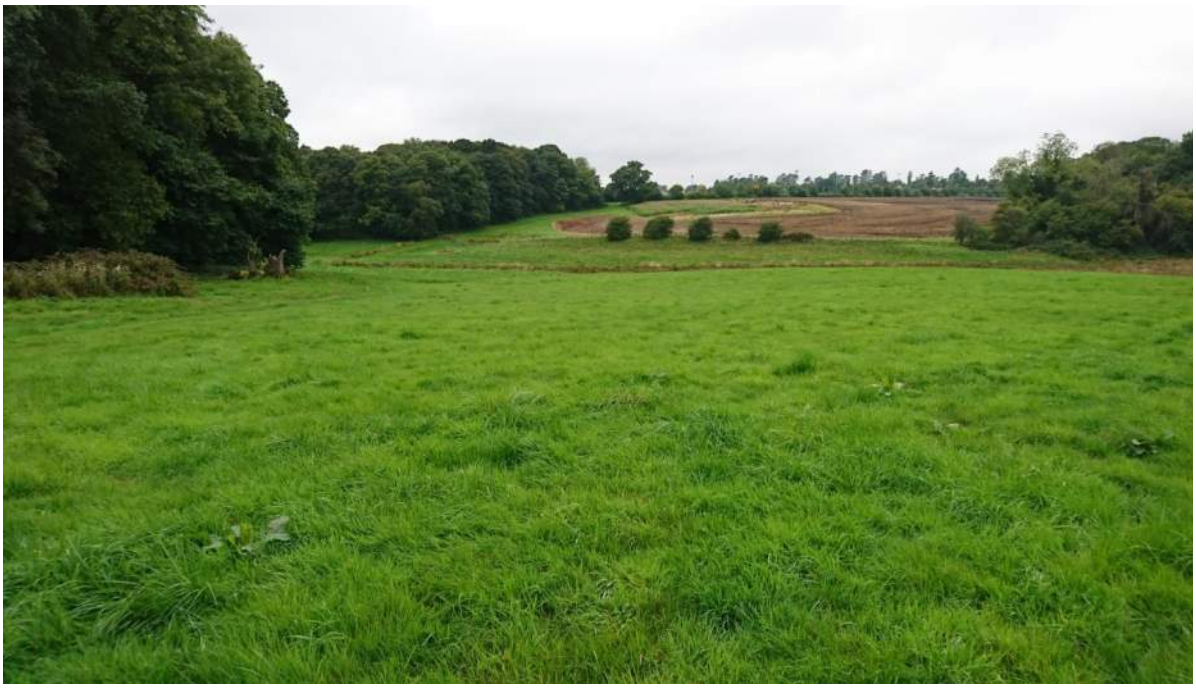
Sandleford Park, Newbury

Appendix F15: Otter and Water Vole Survey Report



Bloor Homes & The Sandleford Farm Partnership

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Rev:	Date:	Updated by:	Verified by:	Description of changes:
2	2015	Isla Hoffman	Tamsin Clark	Revised Masterplan
3	2016	Sarah Cruickshank	Tamsin Clark	Updated following revised application boundary
4	2018	Ben Cooke	Tamsin Clark	Updated to reflect current proposals and include 2018 survey information
5	Feb 2019	Tamsin Clark	N/A	Updated as ES addendum to application 3a

Contents

Executive Summary

Contents	Summary
Site Location	The site is located at Sandleford Park in Newbury, West Berkshire, centred on OS Grid Reference SU 46847 64550. The site comprises agricultural fields with areas of grassland and several copses of ancient woodland. A central valley runs from the north-western corner of the site towards the River Enborne at the site's southern boundary.
Existing Site Information	WYG completed an initial ecological appraisal in 2008 with update surveys completed in 2011, 2013 and 2015. Otter and water vole surveys were completed at the site in 2011, 2013, 2016 and 2017. Otter were confirmed to be commuting along the River Enborne along the southern boundary of the site. Water vole have been confirmed to be using the River Enborne in small numbers.
Scope of this Survey(s)	The aim of the 2018 update surveys was to determine the current distribution of otter and water vole on-site, to inform recommendations for mitigation and enhancement during the construction and operational phases of the development.
Results	• Water vole are confirmed as remaining within the River Enborne in small numbers; footprints were identified along the northern bank of the river toward the river's eastern extent within the site. • No signs of the presence of otter were rerecorded during the survey however due to the number of signs recorded historically it is considered likely that the species retains a presence within the River Enborne.
Recommendations	• The proposed Country Park in the southern part of the site will largely buffer the otter and water vole from the development proposals. • Recommendations for avoidance and enhancement for both otter and water vole with regards to the proposed development have been made within Section 5.3 and 5.4. • Update surveys are recommended prior to the any works that could impact any waterways or bankside vegetation on-site. These additional surveys will inform appropriate mitigation and compensation measures on-site and any licensing requirements.

Glossary

CIEEM	Chartered Institute of Ecology & Environmental Management
EA	Ecological Appraisal
EPS	European Protected Species
GradCIEEM	Graduate member of Chartered Institute of Ecology & Environmental Management
HBIC	Hampshire Biodiversity Records Centre
HPI	Habitat(s) of Principal Importance
LERC	Local Ecological Record Centre
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
NE	Natural England
NERC Act	Natural Environment and Rural Communities Act 2006
NPPF	Revised National Planning Policy Framework
SPI	Species of Principal Importance
TVERC	Thames Valley Environmental Records Centre
UK BSG	UK Biodiversity Steering Group
W&CA	Wildlife & Countryside Act 1981

1.0 Introduction

1.1 Background

WYG was commissioned by Bloor Homes and Sandleford Farm Partnership on 27th November 2017 to complete an update otter and water vole presence / likely absence survey at Sandleford Park, Newbury (hereafter referred to as 'the site'), to identify potential ecological constraints and opportunities to the proposed development of the site.

This updated report has been prepared by Consultant Ecologist Ben Cooke GradCIEEM, and amended to the current proposals by Tamsin Clark MCIEEM.

1.2 Site Location

The site is located at Sandleford Park in Newbury, West Berkshire and is centred at Ordnance Survey National Grid Reference SU 46847 64550. The survey area, hereafter referred to as the 'site', is shown on Figure 1 and comprises of agricultural fields with areas of grassland and several copses of ancient woodland dispersed throughout. A central valley runs from the north-western corner of the site towards the River Enbourne at the site's southern boundary.

For details of the development description, please see the main ES chapter.

1.3 Purpose of the Report

The purpose of the 2018 survey was to provide up-to-date records of otter and water vole activity within the survey area and the immediate surrounding area, so as to identify potential ecological constraints and opportunities with regards to the proposed development and to make recommendations regarding any further work, mitigation and enhancement.

The scope of work comprised:

- Identification of burrows / holts on or adjacent to the site; and
- Identification of signs consistent with otter or water vole activity on the site.

The information contained within this report aims to:

- Assist the client to operate within the law;
- Ensure that the required level of survey work is conducted to apply for a licence, should one be necessary; and
- Provide preliminary advice on mitigation strategies against any adverse effects on the local otter and water vole population which may arise as a result of the proposed development.

Note that, where possible, common names for flora and fauna have been used throughout this report for ease of reading.

2.0 Methodology

2.1 Desk Study

2.1.1 Previous Reports

During the 2011 Phase 1 survey (WYG, 2011) it was considered that a water vole was heard to drop into the water along the River whilst surveying. A water vole latrine was also confirmed along the eastern extent of the River Enborne during the same survey. No evidence of otter was recorded during the Phase 1 survey in 2011 or the Ecological Appraisal in 2017 (Appendix F1); however during a breeding bird survey in 2013 (WYG, 2013) a potential holt was identified along the River.

In 2013, otter and water vole surveys were completed again, and reassessed in 2016. The site was found to have not significantly changed since the 2013 surveys, as such, and given the confirmed presence of both species in 2013, they were considered likely to remain present along the River Enborne. In 2016 (WYG, 2016) otter were confirmed to be commuting along the River Enborne along the southern boundary of the site. Feeding remains likely attributable to otter (or possibly American mink) were also identified along the River Enborne. In addition, an otter spraint was identified within 100m of the western extent of the red line plan along the River Enborne. No active holts were identified. Water vole have been confirmed to be using the River Enborne in small numbers. A latrine was identified within the eastern extent of the river.

Smaller areas of the streams in the north of the site were surveyed for water vole during 2017 (WYG, 2017), when no evidence was found.

Update surveys for otter and water vole were recommended following the update Phase 1 survey (WYG, 2018).

2.1.2 Local Ecological Records Centre

Update site and species specific data has been sourced through direct consultation with two LERC's; HBIC and TVERC in December 2017. HBIC and TVERC provided information in relation to the presence of otter and water vole within 2km of the site.

2.2 Field Surveys

2.2.1 Water Vole Survey

2018 water vole surveys were carried out in accordance with the standard guidance described in The Water Vole Mitigation Handbook (Dow, et al, 2016). The guidelines recommend that waterbodies should be split into 50-100m sections, however for the purpose of this survey the entire length of the River Enborne that borders the site was surveyed for water vole signs where access was possible, as access was not possible along the entire length.

The survey area comprised the length of the River Enborne that borders the site to the south, and associated water ways such as streams and ponds within the area of the proposed development area. An additional 100m beyond the site boundary both up and down stream was surveyed where access was permitted. Both banks of the river, to ten metres to either side of the water course were surveyed, again, where access permitted.

The survey area was checked for:

- Evidence of feeding – vegetation cropped low with a 45° stem cut, food piles, feeding platforms, cut tubers and roots of emergent plants with teeth marks. (Note field voles also leave a 45° cut when feeding, so multiple field signs should be sought to confirm presence).

- Burrows – Water vole burrows entrances are typically wider than high with a diameter of between 4 and 8cm. Burrows may be just above the water level or some may open below the water level. Water vole burrows are characterised by the absence of an earthen spoil heap (Such heaps are characteristic of brown rat).

- Migration routes – runs through bank side vegetation, plunges where voles enter the water (mainly to escape predators).

- Lawns –Short, cropped grass may appear around water vole burrow. These frequently occur when the female is nursing young.

- Droppings/Latrines – faecal pellets which are odourless, 8-12mm long, 4.5mm wide, cylindrical with blunt ends. They vary in colour depending on the type of vegetation eaten, but typically they are black, purple or green. Usually droppings are deposited at discrete latrine sites near the burrow; at range boundaries where they leave or enter the water. Some maybe partly trampled with fresh droppings on top-used as a means of territorial communication.

- Footprints – Water vole footprints are a star-like form with the first and fifth toes at right angles to one another. The footprints of a water vole are smaller than a rat. The approximate length of the hind foot is 34mm.

- Sightings – Observations of water voles during the survey.

2.2.2 Otter Survey

The otter survey methodology followed Chanin (2003). The general survey methodology for locating otter signs requires the surveyor to walk over a given area usually 600m and search for signs indicating the presence of the animal. It is usual to conduct the search within the immediate river channel and up to 10m strip of the adjacent riparian habitat. For the purpose of the study the entire length of the River Enborne that borders the site was surveyed for otter signs where access was possible as access was not possible along the entire length.

The survey area comprised the length of the River Enborne that borders the site to the south. Both banks were surveyed where access permitted. An additional 100m beyond the site boundary both up and down stream was surveyed where access was permitted. Ten metres to either side of the water course was also surveyed where access was possible.

The survey included an extensive search of the River Enborne to the south of the site, and associated water ways such as streams and ponds within the area of the proposed development area for any evidence of otter activity including:

- Spraints – Otters communicate to each other by marking or 'sprainting' with small droppings along a watercourse at features like fallen trees, boulders, prominent grass tussocks and bridge supports etc. Fresh spraints can appear as black, spiky cylinder coated in mucus, 2 to 8cm long and 1 to 5cm in diameter. Spraints have a sweet odour; scales, bones and sometimes feathers are often visible. Weathered spraints are grey with the scales and bones appearing ashy.

- Tracks / Footprints – otter footprints have a characteristic pattern, they are approximately 4 to 8cm long with five rounded toe prints. Otters often take the same route so tracks are often evident. The tail drag is sometimes visible in an otter trail.

- Runways – these are trampled pathways, 30cm wide on river banks and reedbeds. Runways may go down a bank to form a slide, leaving twists in the vegetation.

- Holts - Usually a secure underground resting opportunity more accurately associated with breeding locations. Sometimes next to a watercourse but also away from the water in adjacent habitats. Those close to the water's edge although affording underground security are only generally used for resting purposes. Breeding dens are rarely aside flowing main rivers being usually away from flooding opportunities. Females appear to favour these for most of their resting activities

- Couches – are similar to holts but are found above ground and are used temporarily. Couches are frequently located in dense vegetation cover or natural cavities formed by bankside trees.

- Sightings – simply observing otters during the survey, however even when otters are using a river they are rarely seen during the day.

2.2.3 Survey Dates

An update otter and water vole survey was completed by Senior Ecologist Kevin Wood GradCIEEM and Consultant Ecologist Ben Cooke GradCIEEM on 11th January 2018, with further update water vole surveys on the 10th May and 25th September 2018.

2.3 Limitations

Otter and water vole surveys can be conducted at any time during the year (the only limiting factors being weather and vegetation cover) however there is an optimal period for water vole surveys (April to September inclusive). The initial survey was completed in January which is outside this optimal survey window, but follow up water vole surveys within the correct seasons were completed in May and September 2018, in accordance with the guidelines.

Sections of the watercourses onsite could not be accessed or were obscured as a results of dense vegetation. These areas represented a small proportion of the total area of bankside habitat therefore this is not considered to be a significant limitation.

Given the large number of water vole and otter surveys completed on site, it is considered that we have a good understanding of the current distribution of these species on site.

3.0 Baseline Conditions

3.1 Desktop Study

HBIC and TVERC provided information in relation to the presence of otters and water voles recorded as individual records e.g. sightings and evidence as well as records included in descriptions of designated sites and areas of particular regional, national or international importance. Results can be seen in Table 1.

3.1.1 Otter

HBIC and TVERV did not return any records of otter within 2km of the Sandleford Park site.

3.1.2 Water Vole

There are seventeen records of water voles within 2 km of the Sandleford Park site. There are records of water voles approximately 1.2 km east of the site and 0.5 km south east of the site within the River Enborne. The River Enborne forms the southern boundary of the development site.

Table 1 Information from the desk based search

Date	Grid Reference	Distance (km) & Direction from Site	Location	Species
2000	SU459635	0.5 SE (upstream from the proposed development site)	River Enborne	Water vole
2000	SU486637	1.2 SE	River Enborne, Greenham Common	Water vole
1990	SU490637	1.5 SE	River Kennet, Enborne	Water vole
1994	SU490637	1.5 SE	River Kennet, Enborne	Water vole
1996	SU444635	1.8 SW	River Kennet, Enborne Row	Water vole
1996	SU444635	1.8 SW	Enborne Row	Water vole
1996	SU444635	1.8 SW	River Kennet, Enborne Row	Water vole
1997	SU443635	1.8 SW	Skinner's Green	Water vole
1997	SU445635	1.8 SW	River Kennet, Enborne Row	Water vole
1997	SU445635	1.8 SW	Enborne Row	Water vole
1997	SU445635	1.8 SW	River Kennet, Enborne Row	Water vole

Date	Grid Reference	Distance (km) & Direction from Site	Location	Species
1998	SU445635	1.8 SW	River Kennet, Enborne Row	Water vole
1999	SU444635	1.8 SW	River Kennet, Enborne Row	Water vole
1999	SU445635	1.8 SW	River Kennet, Enborne Row	Water vole
1997	SU441651	2.0 W	River Kennet, Skinner's Green	Water vole
1997	SU441651	2.0 W	Enborne, Skinner's Green	Water vole
1997	SU441653	2.0 W	Skinner's Green	Water vole

3.2 Field Survey Results

3.2.1 Previous Survey Results

Evidence of otter and water vole recorded during previous surveys conducted on-site are summarised in Table 2.

Table 2 Previous survey results

Date	Survey	Grid Reference	Location	Evidence
May 2011	Ecological Appraisal	SU474639	Eastern Extent of the River Enborne	Water vole foot prints
May 2011	Ecological Appraisal	SU473639	Eastern Extent of the River Enborne	Water vole latrine
April 2013	Breeding Bird Survey	SU473639	Eastern Extent of the River Enborne	Considered likely water vole heard entering water
April 2013	Breeding Bird Survey	SU473639	Eastern Extent of the River Enborne	Possible otter holt (later discounted)
October 2013	Otter and Water Vole Survey	SU4718467148	Western Extent of the River Enborne	Otter spraint
November 2013	Otter and Water Vole Survey	SU4718467148	Western Extent of the River Enborne	Otter spraint

3.2.2 Survey Results (2018)

The assessment of the network of watercourses on-site has been divided into three sections (see Figure 2), with the current habitat and signs of otter and/ or water vole activity described within each area described below.

Section 1 – Stream

The stream, approximately 980m in length starts within the north western extent of the site flowing to the south east through the centre of the site. Much of the stream runs through areas of marshy grassland and arable land with the exception of the southern extent which runs through the woodland of Waterleaze Copse. The average depth of the stream is approximately 0.10m with the banks varying between grassland, rushes, bare ground and bramble. The stream is border by vegetation along much of its length varying in species and density along its length. The northern extent of the stream abutted by sparse rows of small willow trees and marshy grassland. The southern areas of the stream are bordered by willow, ash and oak with dense stands of bramble preventing access to stretches of the stream.

The banks were up to 0.5m in height becoming more substantial as the watercourse flowed south. The banks are considered to offer some potential for water vole to burrow. A burrow was identified within the bank (TN3) however it was no possible to determine the origin of the burrow. Vegetation such as *Phragmites* which water vole are typically known to feed on were not identified on-site.

There was a lack of potentially suitable holt locations for otter, however dry waterways are known to be utilised by otter to commute throughout the wider area surrounding watercourses. During the previous survey conducted in 2013 (WYG, 2013) the presence of two signal crayfish were identified within the stream (TN4). The signal crayfish is a prey species of otter therefore the stream is considered to have potential for foraging by otter.

A series of small holes (2-3cm wide) were identified within the northern extent of the stream alongside areas of cleared vegetation. The stems of the surrounding rush were cut at 45° angle and the majority were stripped of the outer casing. Droppings were also identified within the same area however given their size and the aforementioned features described above these are considered to be indications of the presence of bank/field vole (TN1).

The stream feeds into two ponds along its length within the woodland. Pond 1 is approximately 600m^2; no vertical bank was visible therefore the pond lacks features for water vole or otter to create burrows or holts. Pond 2 is located approximately 50m downstream, with shallow vegetated banks on all sides with the exception of the western bank which while vegetated, is approximately 2m in height. The banks are considered to have potential for water vole burrows however the pond is considered to lack features that could be used by otters for resting and holt creation.

No evidence of the presence of otter or water vole were identified within the stream or the surrounding habitat. Bank/field vole were confirmed to be present. This conclusion remains valid during the May & September 2018 update surveys.

Section 2 – Drain

The drain (approximately 620m in length) runs north to south through the site emanating from Crook's Copse. The drain flows through the area of marshy grassland with stands of rush which is situated between Slockett's Copse and High Wood. At its northern extent the drain peters out and is

considered to be more characteristic of a wet flush of inundated marshy grassland rather than a watercourse. The depth of the water is quite shallow for much of its length (approximately < 0.1m) with the drain lacking vertical banking that would be considered substantial enough for a burrow or holt and were vegetated with grass. Sections of the drain at its southern extent before joining the stream have been engineered with stone piping to divert the flow of the drain underground. As described within Section 1 above, areas of vegetation in close proximity to the stream were found to be cleared. The stems of the surrounding rush were cut at 45° angle and stripped of the outer casing. Several smaller holes (measuring 2-3cm) were found within the ground adjacent to the drain suggesting the presence of bank/ field vole (TN2).

No evidence of the presence of otter or water vole were identified along the drain or the surrounding habitat. Bank/field vole were confirmed to be present. This conclusion remains valid during the May & September 2018 update surveys.

Section 3 – River Enborne

The River Enborne is a meandering freshwater river that flows from west to east and comprises the southern site boundary (approximately 825m in length). The physical composition of the River and the surrounding habitat has largely unchanged from those described during previous surveys. Variation in the bankside habitat present remains with the wider habitat through which the River flows (arable field compartments and woodland) also remaining unaltered. The banks vary in height from approximately 0.3m to 1.5m with gravel, mud slopes and cliffs. Along the length of the river the depth varied from very shallow (0.1m) to approximately 1m, however the average depth was approximately 0.25m. During a previous survey, in 2013 (WYG, 2013)a camera trap was placed on-site outside the entrance of a potential holt to identified whether the holt was active. No activity was noted however flash flooding was recorded where the depth of the river considered to have increased to a depth of approximately 2m.

Otter

No evidence of the presence of otter was recorded during the course of the survey within the River Enborne or surrounding woodland. Several trees along the course of the river and adjacent to the river were noted for their root complexes offering potentially suitable features for otters to utilise as resting places. Gravel banks and islands along the course of the river were considered to be potentially suitable feature for the same purpose. The trees were noted during previous surveys and were not considered secure enough to be utilised as a breeding holts. The identification of several trees along the same stretch of bank having been felled by recent weather reinforces this conclusion.

Water Vole

A series of **water vole footprints** were identified along a mud bank on the northern side of the River Enborne (TN5) (Photo 1). A number of burrows were identified of a similar size of those utilised by water voles (approximately 4-8cm) however these were positioned on the opposing southern bank of the river and could not be conclusively attributed to water voles (TN6).

These prints and holes on the opposite bank were also noted during later surveys in 2018.

4.0 Relevant Planning Policy & Legislation

4.1 Revised National Planning Policy Framework

The revised NPPF was issued on 24th July 2018 and currently supplements government Circular *06/2005, Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System*.

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 170 of the NPPF also states that '*Planning policies and decisions should contribute to and enhance the natural environment by:*

a) *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)*
b) *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland*
c) *maintaining the character of the undeveloped coast, while improving public access to it where appropriate*
d) *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*
e) *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
f) *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

The conservation and enhancement of wildlife is also specifically reference re: development within the National Parks or the Broads.

When determining planning applications, local planning authorities should apply the following principles:

a) *if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*

d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

Regarding EcIA's and HRA's – any sites identified, or required, as compensatory measures for adverse effects on any Natura 2000/habitats site should also be given the same level as protection as the pSPA's and cSAC's themselves. In addition, when an application is being determined, "*The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site ….*"

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should….:

c) *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*

4.2 Biodiversity 2020: A strategy for England's wildlife & ecosystem services

Biodiversity 2020 replaces the previous UK Biodiversity Action Plan and sets national targets to be achieved. The intent of Biodiversity 2020, however, is much broader than the protection and enhancement of less common species, and is meant to embrace the wider countryside as a whole.

The priority species and habitats considered under Biodiversity 2020 are the SPI & HPI detailed under NERC Act (see Appendix A for further details).

4.3 Local Plan

Policy CS 17 (Biodiversity and Geodiversity) of the West Berkshire Core Strategy states;

Biodiversity and geodiversity assets across West Berkshire will be conserved and enhanced.

Habitats designated or proposed for designation as important for biodiversity or geodiversity at an international or national level or which support protected, rare or endangered species, will be protected and enhanced. The degree of protection given will be appropriate to the status of the site or species in terms of its international or national importance.

Development which may harm, either directly or indirectly,

- *locally designated sites (Local Wildlife Sites and Local Geological Sites), or*
- *habitats or species of principal importance for the purpose of conserving biodiversity, or*
- *the integrity or continuity of landscape features of major importance for wild flora and fauna will only be permitted if there are no reasonable alternatives and there are clear demonstrable social or economic benefits of regional or national importance that outweigh the need to safeguard the site or species and that adequate compensation and mitigation measures are provided when damage to biodiversity/geodiversity interests are unavoidable.*

In order to conserve and enhance the environmental capacity of the District, all new development should maximise opportunities to achieve net gains in biodiversity and geodiversity in accordance with the Berkshire Biodiversity Action Plan and the Berkshire Local Geodiversity Action Plan. Opportunities will be taken to create links between natural habitats and, in particular, strategic opportunities for biodiversity improvement will be actively pursued within the Biodiversity Opportunity Areas identified on the Proposals Map in accordance with the Berkshire Biodiversity Action Plan.

4.4 Legislation

4.4.1 Water Vole Legislation

The water vole receives full protection through its inclusion on Schedule 5 of the W&CA (as amended) Section 9. Legal protection makes it an offence to:

- Intentionally kill, injure or take water voles;
- Possess or control live or dead specimens, or anything derived from a water vole;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which water voles use for shelter and protection, or disturb water voles whilst they are using such a place; or
- Sell, possess or transport for the purpose of sale; or advertise the
- Buying or selling of water voles.

In addition, the water vole is one of twelve Priority Species of British terrestrial mammals identified by the UK BSG (1995) as needing conservation action and consequently, was covered by the UK Water Vole Species Action Plan in 1997. They are listed as Priority Species under Section 41 of the NERC Act and as a priority species for Berkshire.

4.4.2 Otter Legislation

The otter is protected under Schedule 5 of the W&CA (as amended), Annexes IIa and IVa of the EC Habitats Directive, Appendix 1 of CITES (Conservation of International Trade in Endangered Species), Appendix 2 of the BERN Convention (Conservation of European Wildlife and Natural Habitats) and Schedule 2 of the *Conservation of Habitats and Species Regulations* 2017 which make it illegal to:

- Intentionally or deliberately kill, injure or capture an otter;
- Deliberately disturb an otter;
- Damage, destroy or obstruct otter breeding sites or resting places;
- Possess or transport an otter or any part of an otter, unless acquired legally; and
- Sell, barter or exchange an otter, or parts of an otter.

5.0 Discussion

5.1 Otter

As noted within section 3.1.1 above, no records of otter were returned by HBIC or TVERC within 2km radius of the site. There were no signs of otter recorded during the course of the current survey however as described within section 3.2.1, the presence of otter was identified during the previous survey carried out in 2013 within the River Enborne in the form of otter spraints (TN10). During the same survey a number of feeding remains (of a signal crayfish) were found along the river (TN9). It could not be confirmed that the feeding remains are directly attributable to otter as none were seen during the survey. Consultation with the game keeper highlighted the presence of American mink in the surrounding area which leaves the remains of its food in a similar manner to otter. Given the added evidence of otter spraints along the river it is considered the feeding remains are more likely to be attributed otter than American mink.

A number of features, such as the roots of several trees present along the route of the river offer potential resting points for otter, however, these are not considered secure enough to be utilised as breeding holts as they could become unstable and dislodge, falling into the river.

Chanin (2003) states that evidence from radio tracking and from studies of the distribution of road causalities has shown that otters will use small streams and ditches, including dry watercourses as regular routes. Therefore, even the dry watercourses may provide important commuting habitat to otter throughout the site.

5.2 Water Vole

The closet record of water vole to the site was identified 0.5km south east of the site, further upstream along the River Enborne in 2000, as shown with section 3.1.2 above. Water vole footprints were identified along the northern bank of the river (TN5) within the eastern extent of the River Enborne located within the boundaries of the site. The location of the footprints recorded are situated in close proximity to those previously noted in 2013 (TN7) in addition to the latrine identified in 2011 (TN8). A number of burrows were identified of a similar size of those utilised by water voles however these were positioned on the opposing southern bank of the river and could not be conclusively attributed to water voles.

Given the identification of evidence during the current survey effort in combination with those recorded during previous surveys, it is considered likely that water vole are present within the River Enborne which borders the southern boundary of the site and connected waterbodies. The small number of signs denoting their presence indicates a low population on-site.

During the survey, as was noted during previous survey efforts, no signs of American mink were confirmed. Consultation with the game keeper has highlighted the known presence of American mink in the surrounding area. The presence of this species within the wider area could potentially indicate why there appear to be only a small number of water voles signs recorded within the area.

5.3 Recommendations

Otter and water vole are considered to be present on-site, situated along the River Enborne with some low potential to be present within the stream tributaries and connected ponds which occur on-site. Otters are known to utilise terrestrial habitat (e.g. woodland) to commute and create breeding holts within mature trees and through dry waterways to commute throughout the wider countryside.

The proposed development has the potential to impact upon water voles and otters. To avoid negative impacts to these two species, the following recommendations have been made to prevent breaching relevant wildlife legalisation;

- To ensure that suitable habitat is maintained for otter and water vole, it is recommended a buffer of undisturbed vegetation of at least 5 metres be incorporated around the waterbodies on-site. Construction works are not proposed within the southern part of the site near the River Enborne. In addition, public access to existing watercourses will not be encouraged, or will be directed at the reserved matters phase to avoid areas of ecological interest. This will reduce the risk of disturbance to water vole and otter from pedestrians and dog walkers.

- As otters are known to use woodland habitat for commuting throughout the wider countryside and may use mature trees within woodlands for breeding holts, it is recommended that access into the woodlands within the proposed development site should be controlled. Designated paths will be marked out within some of the woodlands to minimise these impacts, these routes will be guided by existing pathways and ecological surveys.

- Where new roadways and pathways are to cross waterbodies (wet and dry), it is recommended that culverts and/or underpasses are incorporated at these points to ensure the continued use of these habitats by otter and/or water vole, ensuring they can commute throughout the site and into the wider area.

- It is important to maintain connectivity between the watercourses and woodlands on-site and within the wider area. Wildlife corridors have been incorporated into the final masterplan to maintain and enhance connectivity.

- Both during the construction phase and the operational phase, water levels within the waterbodies on site and within the wider area should be maintained and not impacted upon by the proposed development.

- Care will be taken to prevent, any siltation or runoff taking place. This can be partly achieved by making sure that any excavated material is not stored adjacent to the river. All relevant Pollution Prevention Guidelines (PPGs) should be adhered to. This is addressed within the EMMP (Appendix 18).

- Following the construction of any crossing points required over the streams, the banks will be reinstated to the same height and profile and allowed to vegetate naturally from the surrounding area. This will help to maintain the streams in as natural condition as possible.

- Light spillage will be directed away from the woodlands and waterways around the site. Lighting within the development will be designed so that no vegetated boundary including hedgerow, woodland or the central valley area will exceed 1 lux and hence it is unlikely to impact otters. Lighting mitigation includes the installation of cowls, hoods or louvers into those lamps located close to hedgerows. Maintaining a dark corridor along the River and streams will enable otters to continue to use these habitats.

- Prior to any bridge construction, an update survey for otter and water vole evidence is recommended to inform mitigation measures and any licensing requirements. If water vole are found to be using the banks within the proposed works area, recommendations will be made to dissuade water voles from using the development footprint. If this is not possible, or is unsuccessful, then a licence may be required from Natural England to translocate the water voles away from the works area, into an enhanced receptor area elsewhere on the site. If otter are found to be within the proposed works area, recommendations will be made to avoid disturbance to commuting and foraging otters. If an otter breeding or resting place is found within the works area, a Natural England license will need to be sought to disturb this feature.

- Although not currently proposed, if, in the future, any waterways are to be modified or lost as a result of the development, then an update survey will be required to determine the current distribution of water vole and otter prior to works, and waterbodies on site will need to be re-established/ new ditches created to compensate for any water vole and otter habitat loss.

5.4 Enhancements

It is a requirement of the revised NPPF to provide enhancements for biodiversity as part of development. Ongoing ecological involvement in the design evolution has ensured that enhancements have been incorporated into the design, construction and operation of the site. The following measures are of particular relevance to otter and water vole value:

- Selected felling of trees may be appropriate should these not be of ecological value (e.g. of significant age to support roosting bats) to maximise bankside vegetation growth for water vole;

- Tree planting will enhance the capability of the site to intercept airborne pollution. If adopted, any trees selected for planting should be native species of local provenance; although, they should not be planted along watercourses and waterbodies that are potentially suitable for water vole as this would shade out plant growth and reduce the site's value for this species; and

- Planting of new areas of soft landscaping with insect-attracting, native species of local provenance, wherever possible, to enhance the site's general biodiversity value. This approach should apply to any tree/scrub species planted, as well as the ground flora/grass mixes sown and will create valuable habitats for invertebrates. Planting woody species that produce fruit and berries and nectar-producing herbaceous plants that flower at different times of the year would have the greatest benefits for local wildlife.

6.0 References

- Chanin (2003) Ecology of the European otter (*Lutra lutra*) Conserving Natura 2000 Rivers Ecology Series No. 10, English Nature, Peterborough.
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- Communities and Local Government (2012) National Planning Policy Framework.
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- Environment Agency (2002). Fourth Otter Survey of England 2000-2002.
- WYG (2011). Sandleford Park, Newbury: Extended Phase 1 Habitat Survey
- WYG (2013). Sandleford Park, Newbury: Otter and Water Vole Survey
- WYG (2016). Sandleford Park, Newbury: Otter and Water Vole Survey
- WYG (2017). Crooks Copse – Update Water Vole Survey.
- WYG (2018). Sandleford Park, Update Water Vole Survey.

FIGURES

Figure 1 – Site Location Plan
Figure 2 – Otter and Water Vole Presence Plan

Rev	Date	Notes
A	20/09/17	Initial map production

Legend

Site boundary

0 50 100 200 Meters

N

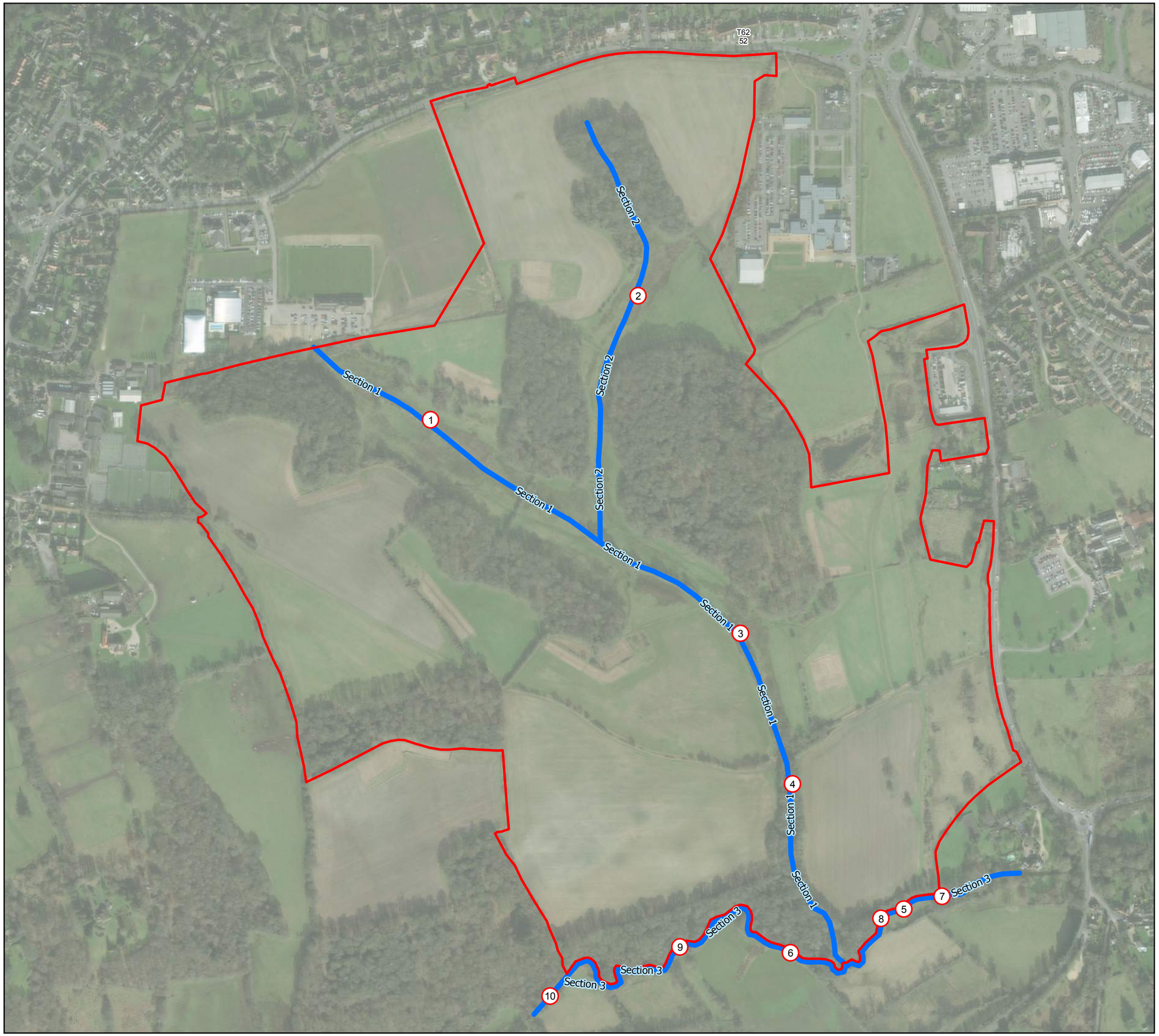
Site Plan - December 2017

Sandleford Park, Newbury
Bloor Homes

Scale at A3:	Project No:	Drawing No:	Revision:
1:10,000	A070660-23	Figure 1	A

Drawn by:	Drawn date:	Approved by:
ben.cooke	17/01/2018	david.west

T:\GIS Southampton\A070660-23_Sandleford_Park_Application_Jul\MXD\Planning\Figure 1_Site_Location_Plan.mxd



Rev	Date	Notes
A	02/01/18	Initial map production

Legend

- Site boundary
- Stream/ River sections
- Target notes

0 50 100 200 Meters

N

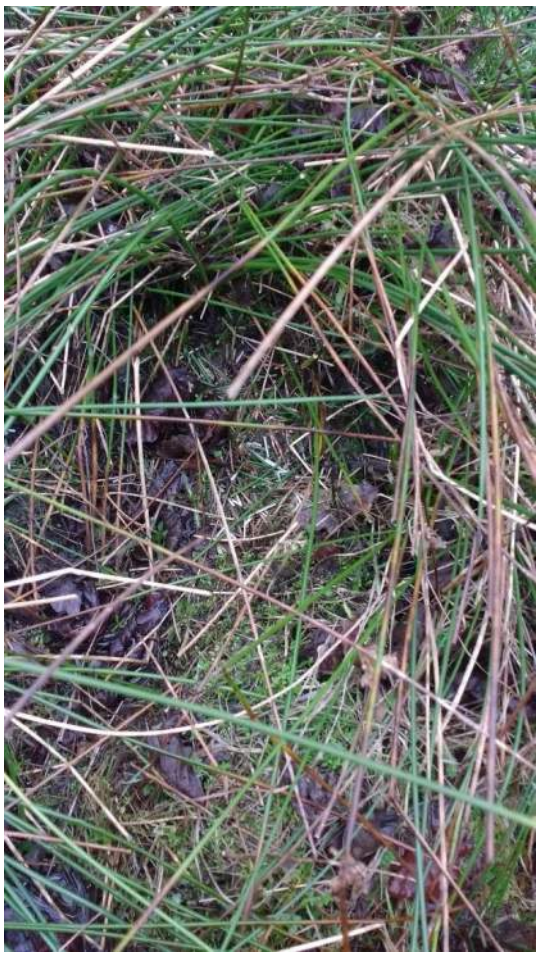
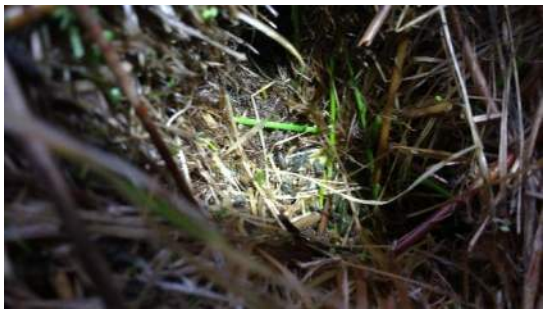
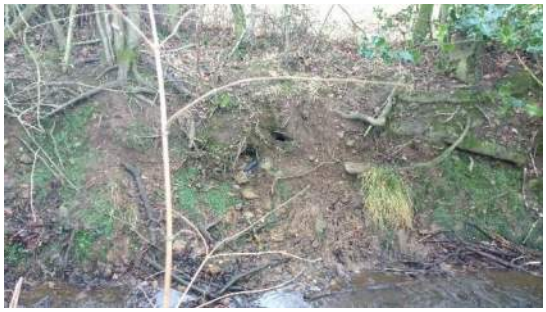
Otter and Water Vole Presence Plan

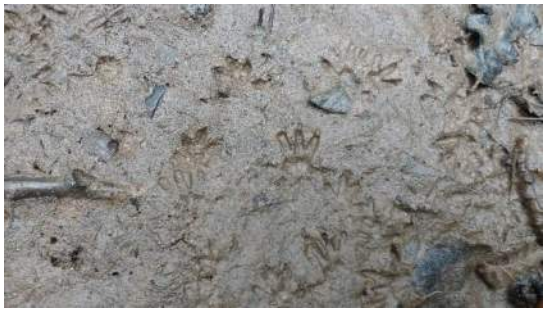
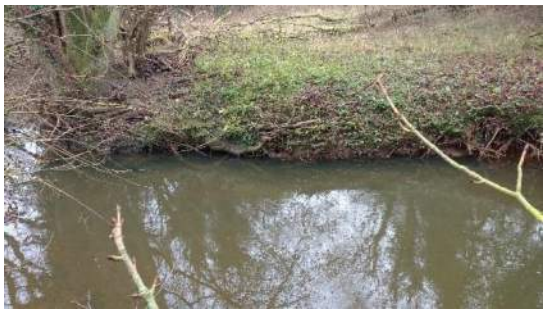
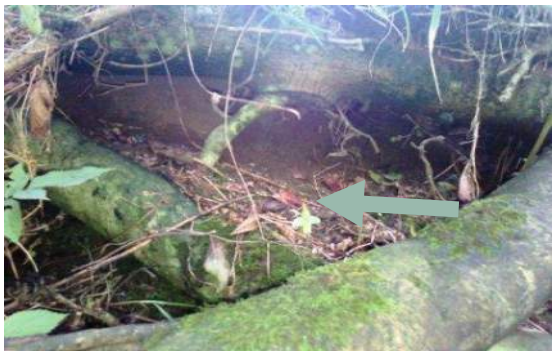
Sandleford Park, Newbury
Bloor Homes

Scale at A3:	Project No:	Drawing No:	Revision:
1:5,750	A070660-23	Figure 2	A

Drawn by:	Drawn date:	Approved by:
Ben Blowers	17/01/2018	Ben Cooke

Appendix A – Target Notes

Target Note	Description	Photograph
TN1	Indications of bank and/or field vole activity was noted along the northern extent of the stream on-site (Section 1). Signs included droppings, vegetation clearance (with grass cut at a 45° angle) and burrow holes (2-3cm wide).	
TN2	Further indications of bank and/or field vole activity was noted along the northern extent of the on-site drain.	
TN3	Potential water vole burrows were identified on the eastern bank of the on-site stream.	

Target Note	Description	Photograph
TN4	Two signal crayfish identified within the stream during the otter and water vole survey conducted in 2013.	n/a
TN5	Water vole footprints were identified along the northern bank of the River Enborne during all 2018 surveys.	
TN6	Potential water vole burrows were identified along the southern bank of the River Enborne. Noted during all 2018 surveys.	
TN7	Water vole footprints identified along the northern bank of the River Enborne in 2013.	n/a
TN8	Water vole latrine identified along the northern bank of the River Enborne in 2011.	n/a
TN9	Feeding remains of a signal crayfish identified along the River Enborne in 2013.	
TN10	Two otter spraints recorded along the River Enborne in 2013.	n/a