
Chapel Lane, Widnes

Water Vole Survey Report

Compiled by Ecology Services Ltd.

on behalf of

Taylor Wimpey

September 2022 (rev. April 2023)



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Executive Summary

Ecology Services Limited was commissioned by Taylor Wimpey in February 2022, to carry out a water vole (*Arvicola amphibious*) presence/absence survey of three waterbodies within land at Chapel Lane, Widnes, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference (NGR) 350000, 387800. The location of the site and waterbodies are shown on Figure 1.

The waterbodies were identified as containing features that may be suitable to support water vole during a Preliminary Ecological Appraisal, which was conducted in July 2022. A water vole survey of two waterbodies (Ponds 3 and 4) had previously been undertaken by Ecology Services Limited in 2020 which found no evidence of water voles.

The site is included in the adopted Halton Borough Council Delivery and Allocations Local Plan 2014-2037 (2022) as a residential development site. Outline planning permission (with all matters other than access reserved) is being sought for up to 350 dwellings, public open space, landscaping and associated infrastructure works. At the time of compiling this report, no development scheme has been prepared and only basic biodiversity enhancements are provided. The three waterbodies will be retained. This report shall be updated to ensure that mitigation and enhancement measures are incorporated once the scheme is finalised.

Watercourse habitats within the survey areas varied in their suitability, generally they contained suitable banks for burrows, with water present and sufficient herbaceous vegetation with the potential to support water vole.

The survey identified habitats that are considered suitable to support water vole but with limitations throughout the survey area..

Both surveys found no presence of water voles during either survey.

The survey has concluded that it is highly unlikely that water vole and potential colonies will be affected and there are currently no apparent implications with regards to works being undertaken this year (2022) and water vole.

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1.0 Introduction

- 1.1 Ecology Services Limited was commissioned by Taylor Wimpey in February 2022, to carry out a water vole (*Arvicola amphibious*) presence/absence survey of three waterbodies within land at Chapel Lane, Widnes, hereinafter referred to as 'the site'. The centre of the site is located by National Grid Reference (NGR) 350000, 387800. The location of the site and waterbodies are shown on Figure 1.
- 1.2 The waterbodies were identified as containing features that may be suitable to support water vole during a Preliminary Ecological Appraisal, which was conducted in July 2022. A water vole survey of two waterbodies (Ponds 3 and 4) had previously been undertaken by Ecology Services Limited in 2020 which found no evidence of water voles.
- 1.3 This Water Vole Survey report has been prepared by Ecology Services Limited on behalf of Taylor Wimpey UK Ltd to assist the local planning authority's consideration of an outline planning application for a site at Chapel Lane, Widnes for:
- "Outline planning application (with all matters other than access reserved) (to be determined by Halton Borough Council only) for the development of up to 350 dwellings, public open space, landscaping and associated infrastructure works. Full details for site access arrangements via a new junction on Chapel Lane (to be determined by Knowsley Borough Council only) and emergency access via Sandy Lane (to be determined by Halton Borough Council)."*
- 1.4 The proposed development site is located to the north-west of the Widnes urban area. The site is situated within the boundary of two separate allocations for residential development within the adopted Halton Delivery and Allocations Local Plan [DALP] (March 2022) under Policy RD1 (Residential Development Allocations). The allocations comprise two separate land parcels separated by Sandy Lane, (Site Ref. W4 to the west of Sandy Lane and Site Ref. W5 to the east). The application red line boundary does not extend to the full extent of the allocation.
- 1.5 At the time of compiling this report, no development scheme has been prepared and only basic biodiversity enhancements are provided. The three waterbodies will be retained. This report shall be updated to ensure that mitigation and enhancement measures are incorporated once the scheme is finalised.
- 1.6 The site is located on the outskirts of the town of Widnes, within the Borough of Halton but on the boundary with Knowsley Council, and contains a mix of habitats including: improved and poor semi-improved grassland, species-rich and species-poor hedgerows, dry ditches, three ponds, a brook (Alder Brook), scattered trees and buildings. The land to the north and west of the site is largely under arable cultivation crossed by hedgerows and ditches with further ponds and an area of broadleaved woodland. To the east of the site lies broadleaved semi-natural woodland, a pond/swamp, semi-improved and poor semi-improved grassland, beyond which lies residential development. To the south lie further small areas of semi-natural broadleaved woodland and further residential development.
- 1.7 The aims of the water vole survey were to:
- Undertake two presence and absence surveys of the affected watercourses and ditches to identify evidence of water vole;
 - Record and map signs of water vole and other small mammals.
- 1.8 The water vole presence/absence surveys were undertaken between June and August 2022.

- 1.9 The purpose of this report is to state the survey methodology, present the results of the survey, evaluate the findings, assess the impacts and make recommendations concerning the protection of water voles that may be present at the site.

2.0 Planning Policy and Legislation

Planning Policy

- 2.1 The National Planning Policy Framework (NPPF, 2021) places a clear responsibility on Local Planning Authorities (LPA) to contribute to conserving and enhancing the natural and local environment. LPAs should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species (e.g. Species of Principal importance, Local Biodiversity Action Plan species); and identify and pursue opportunities for securing measurable net gains for biodiversity.
- 2.2 The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation. Although intended as guidance on Planning Policy Statement 9, Circular 06/2005 has been retained as part of the guidance literature of the NPPF. Circular 06/2005 states that the presence of a protected species is a 'material consideration' in the determination of a planning application. The Government Circular on Biodiversity and Geodiversity (06/2005) provides clarification on the essential need to determine presence or likely absence of a protected species, together with the likely impacts of a proposed development on that species, before planning permission is granted. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted to inform a planning application.
- 2.3 Planning conditions can be implemented to protect, and where possible, improve water vole habitat when a proposed development is granted in such areas.
- 2.4 Although the UKBAP has been superseded by the UK Post-2010 Biodiversity Framework and, in England, Biodiversity 2020: A strategy for England's wildlife and ecosystem services (2011), many Local Authorities have prepared and operate Local Biodiversity Action Plans (LBAPs). LBAPs not only highlight habitats and species that are of Principal Importance but also habitats and species that are of local importance. LBAPs will be prepared for these habitats and species. Listing of habitat or species in a LBAP does not confer any new statutory or planning policy protection, however, impacts upon species prioritised in LBAPs may be a material consideration in a planning application.
- 2.5 Under its 25 Year Environment Plan (2018), the Government proposes to publish a new strategy for nature building on Biodiversity 2020.

Legal Protection

- 2.6 In England and Wales water voles are listed on Schedule 5 of the Wildlife and Countryside Act 1981, receiving full protection since 2008. The Wildlife and Countryside Act 1981, together with amending legislation, includes offences:
- Intentionally killing, taking or injuring a water vole (Section 9(1));
 - Intentionally or recklessly:
 - damaging or destroying a water vole's place of shelter or protection (Section 9(4)(a));

- disturbing a water vole whilst it is occupying a structure or place which it uses for shelter or protection (Section 9 (4)(b));
- obstructing access to a water vole's place of shelter or protection (Section 9(4)(c)).

- 2.7 It is generally agreed that a place of shelter or protection used by water voles includes a network of burrows and/or any nests that have been constructed within the burrow system or above ground amongst dense vegetation.
- 2.8 Due attention, therefore, must be paid to the presence of water vole and appropriate actions taken to avoid committing offences.

Natural Environment and Rural Communities (NERC) Act 2006

- 2.9 The Natural Environment and Rural Communities (NERC) Act 2006 (as amended) imposes a duty on all public bodies, including the Local Planning Authority (LPA) and statutory bodies in exercising their functions “to have due regard, so far as is consistent with proper exercise of those functions, to the purpose of conserving and enhancing biodiversity” which includes ‘restoring or enhancing a population or habitat’. Species of Principal Importance that are capable of being a material consideration in the making of planning decisions are listed under the NERC Act. Water vole is a Species of Principal Importance.

Desktop Study

- 2.10 A desktop study involves contacting Local Record Centres for historic records of water vole. The Water Vole Mitigation Handbook 2016, requires certain types of works to be subject to a desktop study, in conjunction with a presence/or likely absence survey. Ecological data and historic records were collated from the following sources; listed in Table 1.

Table 1: Desktop Study Resources and Record Centres Consulted

Source of information	Information supplied
Local Biodiversity Action Plan - Halton	Identification of Local BAP Species known to occur in the region.
Multi Agency Geographical Information for the Countryside website (https://magic.defra.gov.uk/)	To identify protected sites and Species of Principal Importance within 2km of the site.
Natural Environment and Rural Communities (NERC) Act 2006 (as amended)	Review of Species of Principal Importance known to occur in the region.
Merseyside BioBank Cheshire records office - RECORD	To identify records of water vole within 2km of the site.

- 2.11 The aim of the desktop study was to check for any water vole records and information on water vole status in the local area. The data searches with Merseyside BioBank and RECORD – Cheshire Records office were undertaken in June 2022.

Water Vole Presence or Likely Absence Methodology

- 2.12 The survey followed standard best practice methodology and involved walking along the top of the bank/wading in the water to identify the presence of water voles.
- 2.13 Water vole field signs searched for include: feeding remains, burrows, latrines, sightings, runs in vegetation and footprints. The presence of water vole droppings is the only field sign that can be used reliably on its own to confirm presence of water vole. Field signs of water voles are described in the Water Vole Conservation Handbook (Strachan et al., 2011).

- 2.14 It is important to note that water vole field signs must be interpreted carefully in order to distinguish differences in habitat use, ranging from inhabiting and foraging to excursion activities. The age of individual field signs and specific combinations in which they are found are also fundamentally important in determining the current use of a particular habitat.
- 2.15 All suitable areas of the water courses were closely inspected for signs such as those described above.
- 2.16 The age of individual field signs and specific combinations in which they are found are also fundamentally important in determining the current use of particular habitats.
- 2.17 A description of the physical features of the water courses were also recorded, including bank profile, depth, width and riparian habitats.
- 2.18 The surveys included surveying the suitable waterbodies, in this case three ponds, which were located within the site. The banks of these ponds were surveyed for evidence of water vole and where access was restricted, binoculars were used to view the inaccessible banks. The surveyed ponds are shown on Figure 1.

Timing of Survey

- 2.19 Two survey visits are required to be undertaken over the course of the water vole breeding season (April to September). This is due to changes in habitat suitability over this period of time. One visit is to be undertaken between mid-April to the end of June inclusive. The final survey visit is to be undertaken between July and September inclusive. These visits should be at least two months apart (Dean *et. al.* 2016).
- 2.20 There may be some cases where a second survey visit may not be required such as: water vole presence was not confirmed during the first survey visit and the habitat is considered to be of very low suitability for water vole; and the likelihood of water vole being present in the surrounding area, up to 2km or less where a significant dispersal barrier is present, is also considered to be very low. Further details can be found in Appendix 1.
- 2.21 The first water vole survey visit was undertaken on the 6th of June 2022 with the second water vole survey visit undertaken on the 8th of August 2022. The surveys were undertaken at least two months apart in accordance with Dean *et. al.* (2016).

Weather Conditions

- 2.22 Weather conditions prior to and on the day of the water vole surveys were considered suitable; the surveys were completed during periods of dry conditions and it was dry on the actual days of the surveys.

Personnel

- 2.23 All survey works were undertaken by experienced ecologist Mr. C. Smith BSc assisted by ecologist Miss P.Hickey BSc, MSc.

Relative Population Density of Water Vole

- 2.24 It is not possible to calculate the number of individual water voles from the number of latrine counts. However, the number of latrines indicates a level of water vole activity at the site suitable to be used to assess the impacts of the proposed development and design appropriate mitigation.
- 2.25 The number of latrines present will give an indication of the relative water vole population density. The number and location of latrines will also identify areas of the site most valuable

for water vole. The survey area can then be divided into three categories that support water voles at a “high”, “medium” or “low” density.

- 2.26 Relative water vole population density is calculated by counting the number latrines per 100m of bankside habitat during the first and second surveys.
- 2.27 Table 2 below shows the Relative Population Density of water vole taken from Dean et. al. (2016, page 16).

Table 2: Relative Population Density of Water Vole

Relative Population Density*	First half of Survey season (mid-April - June)	Second half of Survey season (July - September)
High	10 or more	20 or more
Medium	3 to 9	6 to 19
Low	Less than 2 or none, but with other confirmatory field signs	Less than 5 or none, but with other confirmatory field signs

*Approximate number of latrines per 100m of bankside habitat

Limitations

- 2.28 There were access restrictions encountered on both survey rounds. This was largely due to the steep banks of the ponds and very soft ground, but also because of the dense and impenetrable scrub and barbed wire fencing around the ponds. Binoculars were used where banks were inaccessible.

Overall, even though there were some access limitations to the surveys undertaken, it is thought that with the use of binoculars, if evidence of water voles was present then it would have been found on at least one of the survey rounds.

3.0 Results and Evaluation

Desktop Study

- 3.1 A desktop study was undertaken in June 2022 as part of the Preliminary Ecological Appraisal.
- 3.2 The desktop study returned 18 records of water vole dated between 2000 and 2010 within 2km of the development site, 10 from Dog Clog Brook (2000-2010), approximately 1.025km south west of the site. Other records include Heathfield Park Pond, Upton Rocks (2001), approximately 330m west of the site¹, Upton Rocks Park Pond (2001 and 2002), approximately 445m south east of the site, Rainhill (2000), approximately 1.500km north west of the site, Pex Hill (2006) approximately 1.400km north of the site and Fox's Bank Brook (2000), approximately 1.720km north west of the site.
- 3.3 Alder Brook is potentially connected to Dog Clog Brook to the west, however if it is, there must be a culvert of approximately 65m under Chapel Lane which may provide a barrier to movement. Alder Brook is also culverted under Queensbury Way to the east before disappearing beneath residential housing. There is no obvious connectivity with the records to the north of the site, which lie to the north of the A5080. The nearest records for water vole are from Heathfield Park Pond (located either on the opposite side of Chapel Lane to the west or within the residential development to the south) and Upton Rocks Park Pond on the

¹ The grid reference for this record may be incorrect, Heathfield Park being located approximately 375m south of the site.

opposite side of Queensbury Way to the south east with intervening residential development, both dating from 2001/2002.

Habitat Assessment

- 3.4 Descriptions of the waterbodies subject to survey are provided in Table 2 below (refer to Figure 1 for exact locations). The pond numbers follow those used within the Environmental DNA (eDNA) Survey Report for Great Crested Newt (Ecology Services Limited, 2022), Ponds 1 and 2 lying outside the site boundary.

Table 3: Habitat Descriptions

Pond 3 - Habitat Description

Bank profile	Circular pond in corner of field with combination of steep and shallow banks 50/50
Bank substrate	Earth suitable for burrowing
Water depth	<0.5m
Water fluctuations?	Yes by 30 cm
Shading	Shading at 70% during survey one, 90% during survey two
Bankside vegetation	40% bramble and nettle with some ivy and fern
In-channel vegetation	None
Management	Scrub clearance
Constraints?	Small area inaccessible due to soft ground
Suitable for Water Vole?	YES, but limited

Pond 4 - Habitat Description

Bank profile	Steep banks
Bank substrate	Banks suitable for burrowing
Water depth	Approx. 1m
Water fluctuations?	Yes – 10cm
Shading	Shading at 40% for both surveys by willow and horse chestnut
Bankside vegetation	Bramble, tall ruderal and rush
In-channel vegetation	No
Management	No
Constraints?	Some areas impenetrable due to dense scrub on both surveys
Suitable for Water Vole?	YES

Pond 5 - Habitat Description

Bank profile	Vertical banks composed of concrete and bricks
Bank substrate	Earth bank behind stone wall
Water depth	>1m in the middle of the pond
Water fluctuations?	Yes
Shading	Shading at 30% by trees on both surveys from sycamore, hazel and conifers
Bankside vegetation	Bramble and tall ruderal
In-channel vegetation	Watercress at the north east bank, had reduced by survey two but still present
Management	Engineered banks and ditch runs in to pond via a culvert
Constraints?	Most of the banks inaccessible as a residential property, binoculars used.
Suitable for Water Vole?	YES, but limited

Survey Results

- 3.5 The results of the water vole presence or likely absence survey are presented in Table 3 overleaf (refer to Figure 2 for detailed maps).

Table 4: Water Vole Survey Results (Round 1)

Waterbody	Date	Results (Positive/Negative for WV)*	Notes
Pond 3	6.6.2022	Negative	Small mammal hole found (rat?) – used.
Pond 4	6.6.2022	Negative	Small mammal hole found (rat?)
Pond 5	6.6.2022	Negative	

Table 4 (cont): Water Vole Survey Results (Round 2)

Waterbody	Date	Results (Positive/Negative for WV)*	Notes
Pond 3	8.8.2022	Negative	No change from Round 1 results
Pond 4	8.8.2022	Negative	No change from Round 1 results
Pond 5	8.8.2022	Negative	No change from Round 1 results

**Positive identification of water vole within catchment in the form of latrines and droppings. Evidence such as burrows and feeding remains may be closer than the measurement given, but are not conclusive of water vole presence alone. Please refer to results maps for further information.*

Relative Population Density

- 3.6 Based on the results of the field survey (Figure 2) water voles are likely absent on site.

Summary

- 3.7 Historically, water vole was known to be located within the local area in 2001/2002 (within 500m of the site, in Heathfield Park Pond, Upton Rocks and Upton Rocks Park Pond).
- 3.8 The water vole presence and likely absence survey adhered to Dean et. al. (2016) guidelines. All surveys were undertaken at a suitable time of year and by suitably experienced ecologists.
- 3.9 Watercourse habitats within the survey areas varied in their suitability; generally they contained suitable banks for burrows, with water present and sufficient herbaceous vegetation with the potential to support water vole.
- 3.10 The survey identified the likely absence of water vole within the waterbodies on both survey visits.
- 3.11 The water vole and its habitat receive full protection under the Wildlife and Countryside Act 1981 (as amended). Water vole is one of the Species of Principal Importance listed under the Natural Environment and Rural Communities (NERC) Act 2006. It is not a Halton BAP species but is a local BAP species in North Merseyside which covers the land immediately to the north of the site. Water vole is considered to be endangered in Britain and England in the Red List for Britain's Terrestrial Mammals (Mathews and Harrower, 2020).

4.0 Impacts and Recommendations

- 4.1 Given the findings of the surveys and previous survey of Ponds 3 and 4 undertaken by Ecology Services Limited in 2020 (Appendix 2), it is highly unlikely that water vole and potential colonies will be affected, therefore there are currently no apparent implications with regards to the proposed residential development and water vole.
- 4.2 Water vole can be very transient and can travel up to 1km to form new colonies if the habitat is found to be suitable. Habitats are present within the wider survey area that are connected to the site and are considered suitable to support water vole. If works have not commenced within 12 months as of the writing of this report, it is recommended that the survey is repeated

within 12 months prior to the commencement of works, to determine if water voles have moved into the area.

- 4.3 As there are records of water vole in the wider survey area and the waterbodies contain suitable habitat to support water vole, it is recommended in line with the NPPF that there is no net loss of suitable water vole habitat and that development proposals seek to provide ecological enhancement. If there are net losses, it is recommended that compensation is provided such as provision of replacement ponds and/ or enhancement of other areas of the watercourse/ waterbody banks i.e. removal of over shading vegetation and/ or changes in management if possible. Suggested enhancement measures include:
- Retention and enhancement of existing ponds in the site.
 - Enhancement of the brook and creation of a species-rich habitat corridor along the northern boundary of the site.

5.0 References

Dean, M, Strachan, R., Gow, D. and Andrews, R. (2016) *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)* (2016). Eds Fiona Mathews and Paul Chanin. The Mammal Society.

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HM Government (2018). *A Green Future: Our 25 Year Plan to Improve the Environment*.

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Strachan, R., Moorhouse, T. & Gelling, M. (2011) *Water vole conservation handbook* (3rd Ed.). Wildlife Conservation Research Unit, Oxford.

The Wildlife & Countryside Act 1981 (as amended)

The Natural England Rural Communities Act 2006

The National Planning Policy Framework (NPPF), 2019

UK Biodiversity Steering Group (1995) *Biodiversity – the UK Steering Group Report*. Volume 2: Action Plans. P89 SAP for Pipistrelle. London, HMSO.

Figure 1:
Water Vole Survey Area

Figure 1:
Map of Survey Area

Map Ref (NGR): 350000, 387800

-  Site Boundary
-  Ponds

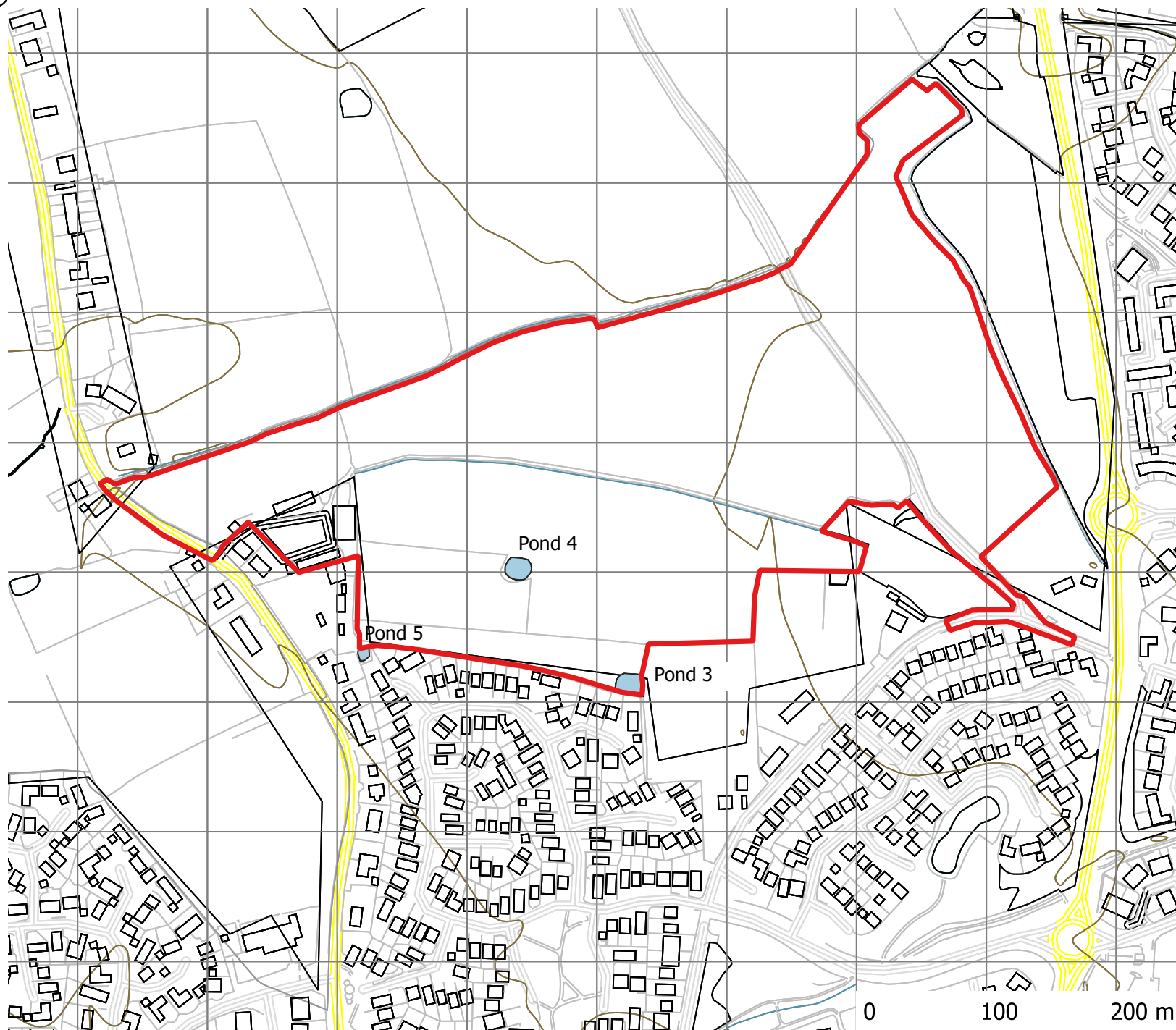
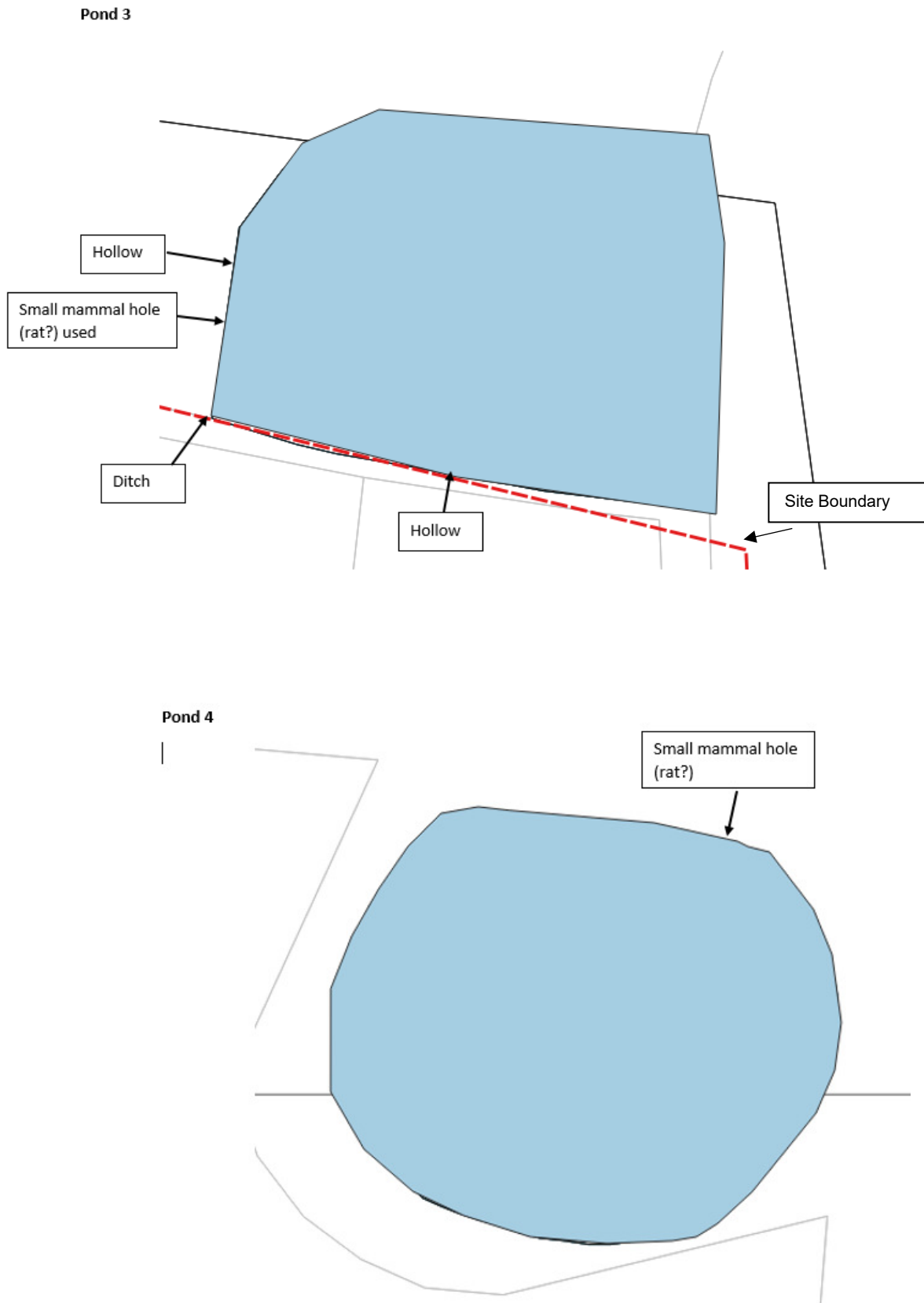
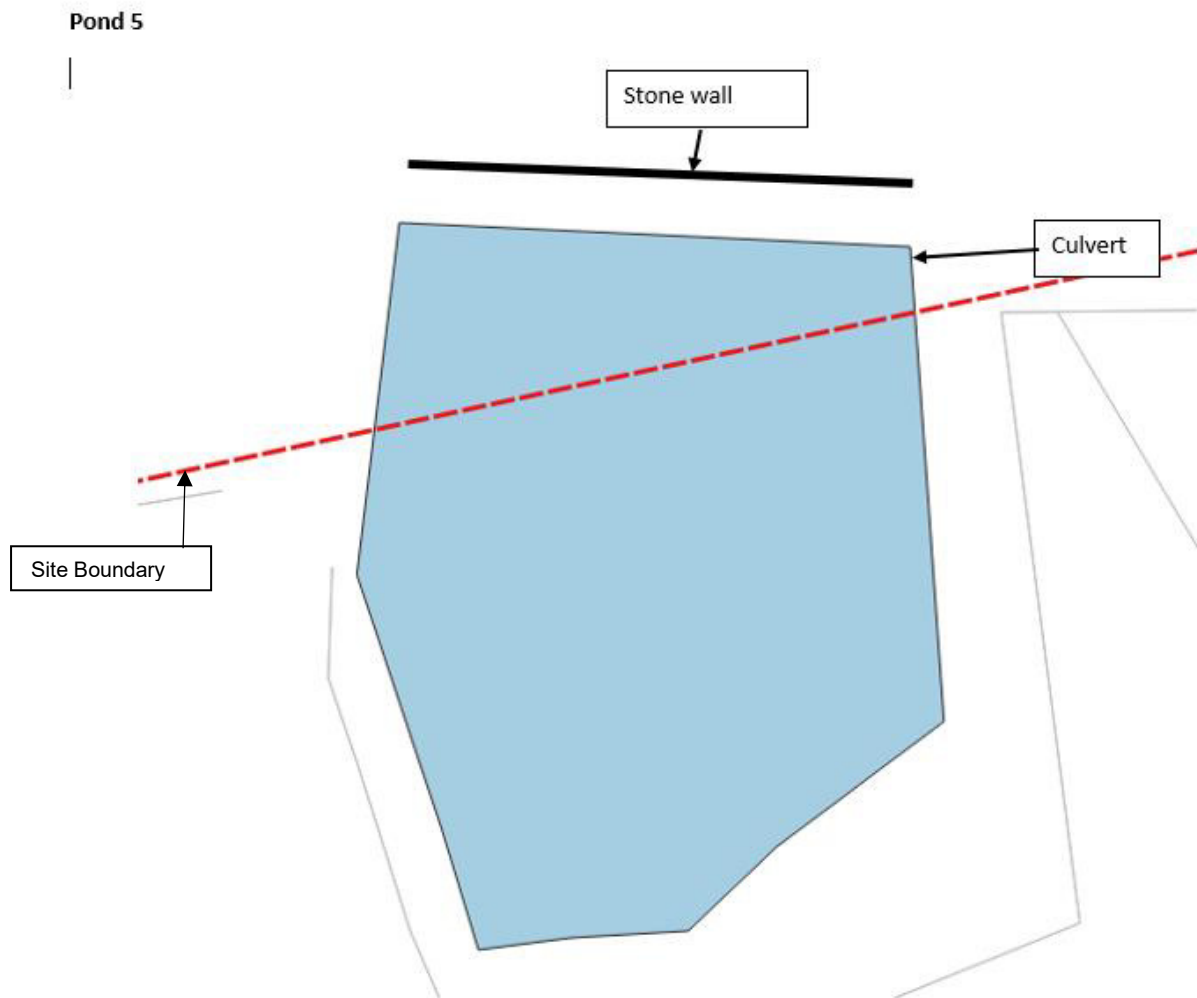


Figure 2:
Water Vole Survey Results – Rounds 1 and 2





Appendix 1: Field sign surveys - one site visit or two? (The Water Vole Mitigation Handbook, Page 15)

Field sign surveys – one site visit or two

The water vole is a mobile species that responds to habitat changes over the course of the breeding season: a single visit can therefore be insufficient to confirm likely absence in many cases. In addition, where water voles are present, survey data based on two visits will allow a more robust assessment of the impacts of the project, particularly where water voles use different parts of a site during different parts of the breeding season. This can also be important in determining the most appropriate approach to mitigation. These guidelines therefore recommend that two field survey visits are routinely undertaken. However, it is recognised that the second visit may not be required in some cases, and it may therefore be possible to make a case for an assessment based on one visit. Examples of scenarios where a single visit (before submitting a planning application) may be sufficient as follows:

1. Water vole presence is confirmed during the first survey visit.

A second visit may not be needed where the assessment of effects on water voles can be made on a precautionary basis (i.e. water voles are present throughout the site at the maximum density that the habitat could support), **and** the approach to mitigating incidental mortality (displacement, relocation by trapping, off-site translocation, etc.) can be determined from the first visit alone.

The assessment of the quality of the habitat, and therefore the likely maximum density of water voles, will need to consider changes to the habitat in different parts of the breeding season as a result of natural processes (e.g. changes to water level) and management activities. This can be a difficult assessment to make for many sites.

2. Water vole presence is not confirmed during the first survey visit.

A second visit may not be needed where the habitat is of very low suitability for water voles and there is a very low likelihood that water voles are present in the surrounding area - up to 2km from the area of the proposed works, or less where significant barriers to water vole dispersal are present.

The assessment of the suitability of the habitats will need to consider changes to the habitat in different parts of the breeding season as a result of natural processes and management activities. This can be a difficult assessment to make for many sites. It will be difficult to make a robust case for not undertaking a second survey where access to surrounding areas is limited or impossible.

A second visit may also not be needed where the assessment of effects on water voles can be made on a precautionary basis (as per point 1 above)

In all cases, a second visit would be advisable prior to commencing works.

Appendix 2:
Chapel Lane, Widnes Water Vole Survey Report (Ecology Services, 2021)

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Taylor Wimpey

January 2021



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The site lies within an area of countryside characterised by improved grassland and semi-improved pasture, crossed by hedgerows and ditches with scattered ponds.

Two waterbodies were identified as containing features that were suitable to support water vole during a Preliminary Ecological Appraisal, which was conducted in April 2019. A desktop study was also undertaken as part of the Preliminary Ecological Appraisal, which identified several records of water vole within 2km of the site.

Watercourse/ waterbody habitats within the survey areas varied in their suitability, generally they contained suitable banks for burrows, with water present but only limited herbaceous vegetation with the potential to support water vole.

During both survey visits evidence of water vole was found to be absent.

The survey has concluded that it is highly unlikely that water vole and potential colonies will be affected and there are currently no apparent implications with regards to works being undertaken and water vole. As there are records of water vole in the wider survey area and the waterbodies contain suitable habitat to support water vole, if there are net losses, it is recommended that compensation is provided such as provision of replacement ponds and/ or enhancement of other areas of the watercourse/ waterbody banks. Enhancement measures in the form of retaining and enhancing the ponds located within the site and the brook along the northern boundary.

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Figure 1: Water Vole Survey Area

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Appendix 1: Licensing information

Appendix 2: Survey Design. (The Water Vole Mitigation Handbook)

Appendix 3: Field sign surveys - one site visit or two? [The Water Vole Mitigation Handbook](#)

1.0 Introduction

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- 1.2 The waterbodies were identified as containing features that may be suitable to support water vole during a Preliminary Ecological Appraisal, which was conducted in April 2019. See Figure 1 showing the location of the surveyed waterbodies.
- 1.3 The site is currently included in the draft Halton Borough Council Delivery and Allocations Local Plan 2014-2037 (2018) as a residential development site. At the time of compiling this report, no development scheme has been prepared and only basic biodiversity enhancements are provided. This report shall be updated to ensure that mitigation and enhancement measures are incorporated once the scheme is finalised.

Site Description

- 1.4 The site is located on the outskirts of the town of Widnes, within the Borough of Halton but on the boundary with Knowsley Council and contains a mix of habitats including: improved and poor semi-improved grassland, species-rich and species-poor hedgerows, wet and dry ditches, two ponds, scattered trees and buildings. The land to the north and west of the site is largely under arable cultivation crossed by hedgerows and ditches with further ponds and an area of broadleaved woodland. Broadleaved woodland adjoins the site to the east, beyond which lies Queensbury Way residential development with further residential development to the south.
- 1.5 The aims of the water vole survey were to:
 - Undertake two presence and absence surveys of the affected waterbodies to identify evidence of water vole;
 - Record and map signs of water vole and other small mammals.
- 1.6 The water vole presence/absence surveys were undertaken between May and August 2020.
- 1.7 The purpose of this report is to state the survey methodology, present the results of the survey, evaluate the findings, assess the impacts and make recommendations concerning the protection of water voles that may be present at the site.

2.0 Planning Policy and Legislation

Planning Policy

- 2.1 The National Planning Policy Framework (NPPF, 2019) places a clear responsibility on Local Planning Authorities (LPA) to contribute to conserving and enhancing the natural and local environment. LPAs should promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species (e.g. Species of Principal importance, Local Biodiversity Action Plan species); and identify and pursue opportunities for securing measurable net gains for biodiversity.
- 2.2 The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation. Although intended as guidance on Planning Policy Statement 9, Circular 06/2005 has been retained as part of the guidance literature of the NPPF. Circular 06/2005 states that the

presence of a protected species is a 'material consideration' in the determination of a planning application. The Government Circular on Biodiversity and Geodiversity (06/2005) provides clarification on the essential need to determine presence or likely absence of a protected species, together with the likely impacts of proposed development on that species, before planning permission is granted. Therefore, an LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted to fully inform the application. Relevant information includes adequate surveys and, where required, mitigation strategies, which will need to be submitted to inform a planning application.

- 2.3 Unless material considerations indicate otherwise, planning law requires that planning applications must be determined in accordance with the provisions of the relevant development plan. Planning conditions can be implemented to protect, and where possible, improve water vole habitat when a proposed development is granted in such areas.

Legal Protection and Licensing

- 2.4 In England and Wales water voles are listed on Schedule 5 of the Wildlife and Countryside Act 1981, receiving full protection since 2008. The Wildlife and Countryside Act 1981, together with amending legislation, includes offences:

- Intentionally killing, taking or injuring a water vole (Section 9(1));
- Intentionally or recklessly:
 - damaging or destroying a water vole's place of shelter or protection (Section 9(4)(a));
 - disturbing a water vole whilst it is occupying a structure or place which it uses for shelter or protection (Section 9 (4)(b));
 - obstructing access to a water vole's place of shelter or protection (Section 9(4)(c)).

- 2.5 It is generally agreed that a place of shelter or protection used by water voles includes a network of burrows and/or any nests that have been constructed within the burrow system or above ground amongst dense vegetation.

- 2.6 Due attention, therefore, must be paid to the presence of water vole and appropriate actions taken to avoid committing offences.

- 2.7 Licences cannot be issued for the specific purpose of development or any activities associated with the improvement or maintenance operations of waterways. In some circumstances Natural England will consider issuing a licence in relation to a development proposal if the licensed action is going to provide a conservation benefit for water voles. The proposed project will therefore need to deliver a conservation benefit for water vole. Further information on licensing is provided in Appendix 1.

Natural Environment and Rural Communities (NERC) Act 2006

- 2.8 The Natural Environment and Rural Communities (NERC) Act 2006 imposes a duty on all public bodies, including the Local Planning Authority (LPA) and statutory bodies in exercising their functions "to have due regard, so far as is consistent with proper exercise of those functions, to the purpose of conserving biodiversity" which includes 'restoring or enhancing a population or habitat'. The NERC Act lists Species of Principal Importance that are capable of being a material consideration in the making of planning decisions. Water vole is a Species of Principal Importance.

3.0 Methodology

Desktop Study

- 3.1 A desktop study involves contacting Local Record Centres for historic records of water vole. The Water Vole Mitigation Handbook 2016, requires certain types of works to be subject to a desktop study, in conjunction with a presence/or likely absence survey. Ecological data and historic records were collated from the following sources; listed in Table 1.

Table 1: Desktop Study Resources and Record Centres Consulted

Source of information	Information supplied
Halton Biodiversity Action Plan (the North Merseyside Biodiversity Action Plan (LBAP) has also been reviewed as the site lies on the boundary between the two LBAPs).	Identification of Local BAP Species known to occur in the region.
Multi Agency Geographical Information for the Countryside (MAGIC) website (https://magic.defra.gov.uk/)	To identify protected sites 2km of the site.
Natural Environment and Rural Communities (NERC) Act 2006	Review of Species of Principal Importance known to occur in the region.
Biodiversity Information Centre for Cheshire, Halton, Warrington, and Wirral - RECORD Merseyside Biobank	To identify records of water vole within 2km of the site.

- 3.2 The aim of the desktop study was to check for any water vole records and information on water vole status in the local area. The data searches were undertaken as part of the Preliminary Ecological Appraisal with RECORD and Merseyside Biobank were undertaken on 10th and 11th April 2019 respectively.
- 3.3 Water vole surveys were undertaken in following standard guidance within *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)* (Dean et al., 2016).

Water Vole Presence or Likely Absence Methodology

- 3.4 The survey followed standard best practice methodology and involved walking along the top of the bank/wading in the channel or the use of a boat to the required distance up stream to identify the presence of water voles. Undertaking the survey in the upstream direction wherever possible, ensures that disturbance of any signs is limited.
- 3.5 Water vole field signs searched for include: feeding remains, burrows, latrines, sightings, runs in vegetation and footprints. The presence of water vole droppings is the only field sign that can be used reliably on its own to confirm presence of water vole. Field signs of water voles are described in the Water Vole Conservation Handbook (Strachan et al., 2011).
- 3.6 It is important to note that water vole field signs must be interpreted carefully in order to distinguish differences in habitat use, ranging from inhabiting and foraging to excursion activities. The age of individual field signs and specific combinations in which they are found are also fundamentally important in determining the current use of a particular habitat.
- 3.7 All suitable areas of the water courses were closely inspected for signs such as those described above.
- 3.8 The age of individual field signs and specific combinations in which they are found are also fundamentally important in determining the current use of particular habitats.

- 3.9 A description of the physical features of the water courses were also recorded, including bank profile, depth, width and riparian habitats.

Survey Design

- 3.10 The type of proposed development works determines the baseline survey data required to prove presence or likely absence of water vole. The water vole survey was designed taking into account the proposed development and Dean *et. al.* (2016), see Appendix 1 for full details.
- 3.11 The surveys included surveying the suitable waterbodies, in this case two ponds, which were located within the site. The banks of these ponds were surveyed for evidence of water vole and where access was restricted, binoculars were used to view the inaccessible banks. The surveyed ponds are shown on Figure 1.

Timing of Survey

- 3.12 Two survey visits are required to be undertaken over the course of the water vole breeding season (April to September). This is due to changes in habitat suitability over this period of time. One visit is to be undertaken between mid-April to the end of June inclusive. The final survey visit is to be undertaken between July and September inclusive. These visits should be at least two months apart.
- 3.13 There may be some cases where a second survey visit may not be required such as: water vole presence was not confirmed during the first survey visit and the habitat is considered to be of very low suitability for water vole; and the likelihood of water vole being present in the surrounding area, up to 2km or less where a significant dispersal barrier is present, is also considered to be very low. Further details can be found in Appendix 2.
- 3.14 The first water vole survey visit was undertaken on the 19th of May 2020 and the second water vole survey visit was undertaken on the 19th of August 2020. Surveys were undertaken at least two months apart in accordance with Dean *et. al.* (2016).

Weather Conditions

- 3.15 Weather conditions prior to and on the day of the water vole surveys were considered suitable; the surveys were completed during periods of dry conditions and it was dry on the actual days of the surveys.

Personnel

- 3.16 All survey works were undertaken by experienced ecologist Miss C. Wood BSc (Hons) MSc, Mr B. Meadows BSc (Hons) ACIEEM, Mrs Z. Foster BSc (Hons) MSc and Mr. M. Barnes. BSc (Hons). The surveyors worked in pairs for health and safety reasons.

Relative Population Density of Water Vole

- 3.17 It is not possible to calculate the number of individual water voles from the number of latrine counts. However, the number of latrines indicates a level of water vole activity at the site suitable to be used to assess the impacts of the proposed development and design appropriate mitigation.
- 3.18 The number of latrines present will give an indication of the relative water vole population density. The number and location of latrines will also identify areas of the site most valuable for water vole. The survey area can then be divided into three categories that support water voles at a “high”, “medium” or “low” density.

- 3.19 Relative water vole population density is calculated by counting the number latrines per 100m of bankside habitat during the first and second survey.
- 3.20 Table 2 below shows the Relative Population Density of water vole taken from Dean et. al. (2016, page 16).

Table 2: Relative Population Density of Water Vole

Relative Population Density*	First half of Survey season (mid April - June)	Second half of Survey season (July - September)
High	10 or more	20 or more
Medium	3 to 9	6 to 19
Low	Less than 2 or none, but with other confirmatory field signs	Less than 5 or none, but with other confirmatory field signs

*Approximate number of latrines per 100m of bankside habitat

Limitations

- 3.21 There were access restrictions encountered on both survey rounds. This was largely due to the steep banks of the ponds, but also because of the dense and impenetrable scrub and barbed wire fencing around the ponds. Binoculars were used where banks were inaccessible.
- 3.22 Overall, even though there were some access limitations to the surveys undertaken, it is thought that with the use of binoculars, if evidence of water voles was present then it would have been found on at least one of the survey rounds.

4.0 Results and Evaluation

Desktop Study

- 4.1 The desktop study returned 13 records of water vole within 2km of the development site, 10 from Dog Clog Brook, approximately 1,025 m south west of the site. Other records include Heathfield Park Pond, Upton Rocks, approximately 330m west of the site¹, Rainhill, approximately 1.5km north west of the site and Pex Hill approximately 1.4km north of the site.

Habitat Assessment

- 4.2 Descriptions of the waterbodies and ditches subject to survey are provided in Table 3 below (refer to Figure 1 for exact locations).

Table 3: Habitat Descriptions

Waterbody 1 - Habitat Description

Bank profile	Circular field pond, steep 2m banks.
Bank substrate	Soft earth.
Water depth	Unknown.
Water fluctuations?	Likely.
Shading	Shading at 50%.
Bankside Vegetation	Scrub (bramble), tall ruderal, rushes and scattered mature trees (100%).
In-channel Vegetation	None, banks vegetated providing suitable for cover, but limited food.
Management	No evidence of engineered banks, or management, used as a water source by sheep.
Constraints?	Some areas of the bank inaccessible due to being too steep and presence of dense scrub.
Suitable for Water Vole?	YES, but limited

¹ The grid reference for this record may be incorrect, Heathfield Park being located approximately 375m south of the site.

Waterbody 2 - Habitat Description

Bank profile	Circular pond in the corner of a field, steep 2m banks.
Bank substrate	Soft earth.
Water depth	Unknown.
Water fluctuations?	Likely.
Shading	Shading at 95% from trees.
Bankside Vegetation	Mature trees and bramble (100%).
In-channel Vegetation	None, banks vegetated providing suitable for cover.
Management	No evidence of engineered banks or management.
Constraints?	Some areas of the bank inaccessible due to being too steep and dense scrub.
Suitable for Water Vole?	NO

Survey Results

- 4.3 No evidence of water vole presence was found on either survey round.

Summary

- 4.4 Populations of water vole are known to be located within the local area (less than 400m from site, in Heathfield Park Pond, Upton Rocks,).
- 4.5 The water vole presence and likely absence survey adhered to Dean et. al. (2016) guidelines. All surveys were undertaken at a suitable time of year and by suitably experienced ecologists.
- 4.6 Watercourse/ waterbody habitats within the survey areas varied in their suitability; generally, they contained suitable banks for burrows with water present, but limited herbaceous vegetation with the potential to support water vole.
- 4.7 The survey identified the likely absence of water vole within the waterbodies on both survey visits.
- 4.8 The water vole and its habitat receive full protection under the Wildlife and Countryside Act 1981 (as amended). Water vole is one of the Species of Principal Importance listed under the Natural Environment and Rural Communities (NERC) Act 2006 and a Lancashire BAP species. Water vole is considered to be endangered in Britain and England in the Red List for Britain's Terrestrial Mammals (Mathews and Harrower, 2020).

5.0 Impacts and Recommendations

- 5.1 Given the findings of the surveys it is highly unlikely that water vole and potential colonies will be affected, therefore there are currently no apparent implications with regards to the proposed residential development and water vole.
- 5.2 Water vole can be very transient and can travel up to 1km to form new colonies if the habitat is found to be suitable. Habitats are present within the wider survey area that are connected to the site and are considered suitable to support water vole. If works have not commenced within 12 months as of the writing of this report, it is recommended that the survey is repeated within 12 months prior to the commencement of works, to determine if water voles have moved into the area.
- 5.3 As there are records of water vole in the wider survey area and the waterbodies contain suitable habitat to support water vole, it is recommended in line with the NPPF that there is no net loss of suitable water vole habitat and that development proposals seek to provide

ecological enhancement. If there are net losses, it is recommended that compensation is provided such as provision of replacement ponds and/ or enhancement of other areas of the watercourse/ waterbody banks i.e. removal of over shading vegetation and/ or changes in management if possible. Suggested enhancement measures include:

- Retention and enhancement of existing ponds in the site.
- Enhancement of the brook and creation of a species-rich habitat corridor along the northern boundary of the site.

6.0 References

Dean, M, Strachan, R., Gow, D. and Andrews, R. (2016) *The Water Vole Mitigation Handbook* (The Mammal Society Mitigation Guidance Series) (2016). Eds Fiona Mathews and Paul Chanin. The Mammal Society.

Mathews F, and Harrower C. (2020). IUCN – compliant Red List for Britain’s Terrestrial Mammals. Assessment by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England, Peterborough.

ODPM Circular 06/2005, Defra Circular 01/2005. *Biodiversity & Geological Conservation – Statutory Obligations and their impact within the Planning System*. Online - available from; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf [Accessed December 2020].

Strachan, R., Moorhouse, T. & Gelling, M. (2011) *Water vole conservation handbook* (3rd Ed.). Wildlife Conservation Research Unit, Oxford.

The Wildlife & Countryside Act 1981 (as amended)

The Natural England Rural Communities Act 2006

The National Planning Policy Framework (NPPF), 2019

UK Biodiversity Steering Group (1995) *Biodiversity – the UK Steering Group Report*. Volume 2: Action Plans. P89 SAP for Pipistrelle. London, HMSO.

Figure 1:
Water Vole Survey Area



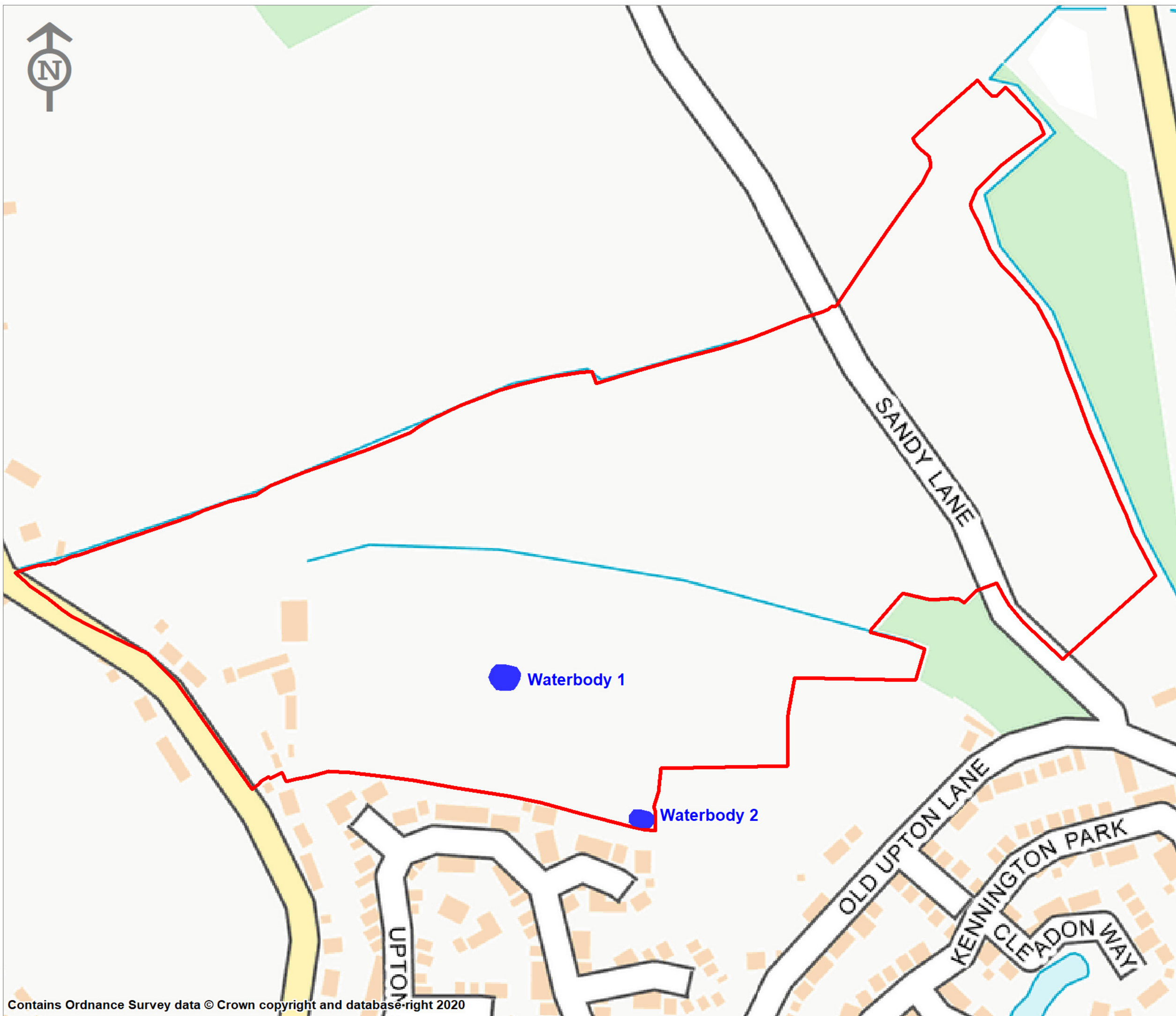
Chapel Lane, Widnes

Figure 1:
Water Vole
Survey Area Plan.

Map Ref: (NGR) 35004, 38780
Map Scale: 1:2,250 @ A3

KEY

-  Site boundary
-  Surveyed watercourse



Appendix 1: **Licensing information (England)**

Prior to February 2016, if it could be demonstrated that any action that would otherwise have been an offence was the “incidental result” of a lawful operation and could not reasonably have been avoided, this would have constituted a defence against prosecution under the Wildlife & Countryside Act 1981 (as amended). However Natural England has reviewed their position on this and now believes that displacement activities (excluding justifiable mowing) are no longer covered by the “incidental result” defence. Therefore, any displacement activities now require a licence.

Licences cannot be issued for the specific purpose of development or any activities associated with the improvement or maintenance operations of waterways. In some circumstances Natural England will consider issuing a licence in relation to a development proposal if the licensed action is going to provide a conservation benefit for water voles.

In England, licences are available from Natural England to permit the following activities:

- Intentional disturbance and damage or destruction of water vole burrows by means of “displacement”;
- Intentional displacement of water voles by internal drainage boards to work on flood defences, water courses or drainage systems;
- For scientific or educational purposes;
- For the purpose of ringing or marking;
- Conserving wild animals or introducing them to particular areas;
- Preserving public health or public safety;
- Preventing the spread of disease; and
- Preventing serious damage to any form of property or to fisheries.

In England, displacement activities can be carried out under a Class Licence by a registered person provided that they conform to the licence conditions which include:

- Displacement over a continuous length of bank not exceeding 50m (for water courses this equates to 50m on each bank);
- Works only to be undertaken during the period of 15th February to 15th April inclusive (with some exceptions as detailed in Appendix 1 of The Water Vole Mitigation Handbook);
- Planning consent must be granted for schemes that require such consent;
- The Class Licence can only be relied upon if there is no alternative i.e. when alternative measures that do not require a licence have been considered and proved to be either impractical or impossible; and
- A report of action taken under this licence is provided to Natural England.

In certain circumstances where displacement activities do not conform to the conditions set out in the Class Licence, such as weather conditions do not allow for displacement during the above time period, displacement in these circumstances will need to be carried out under a Site-specific licence.

In England, a licence to displace water vole, be it a Class Licence or a Site-specific Licence will be issued for the purpose of conservation. The proposed project will therefore need to deliver a conservation benefit for water vole.

Appendix 2:
Survey Design (The Water Vole Mitigation Handbook, Box 1, Page 9)

1. Type of works: Very <i>small-scale</i> works affecting up to 15m of watercourse	
Example project	Construction of an outfall, bridge repair works, or installation of pipes up to 15m long within a narrow field drains (where these do not form part of a larger development)
To confirm presence or likely absence of water voles	Field survey – footprint of the works, including temporary work areas plus 100m upstream and downstream. A comprehensive desk study exercise will not necessarily be required.
Additional information (if water voles present)	Micro-mapping of the habitat and burrow locations to allow design to minimise impacts (when relevant). Further data may be needed to ensure that there is sufficient alternative habitat available to displace water voles into. This may be obtained through desktop study or a habitat assessment combined with 'spot checks' for water voles over a wider area (1-2km upstream and downstream of the works).
2. Type of works: Works <i>temporarily</i> affecting up to 50m of watercourse	
Example project	Pipeline crossing a watercourse
To confirm presence or likely absence of water voles	Field survey – footprint of the works, including temporary work areas, plus 200m upstream and downstream of the works. A comprehensive desktop study exercise will not necessarily be required.
Additional information (if water voles present)	Micro-mapping of the habitat and burrow locations to allow design to minimise impacts (when relevant). Further data may be needed to ensure that there is sufficient alternative habitat available to displace water voles into. This may be obtained through desktop study or a habitat assessment combined with 'spot checks' for water voles over a wider area (1-2km upstream and downstream of the works).
3. Type of works: Works <i>temporarily</i> affecting more than 50m of watercourse	
Example project	Watercourse re-profiling or repair/reinstatement of bank stabilisation structures
To confirm presence or likely absence of water voles	Field survey – footprint of the works, including temporary work areas, plus at least 200m upstream and downstream of the works. For works affecting more than 500m of watercourse, the study area should increase to 500m upstream and downstream of the works. A comprehensive desk study exercise will not necessarily be required, but would be advisable for works affecting ≥ 250 m of watercourse.
Additional information (if water voles present)	Desk study – Site and up to 2-5km around it (or a habitat assessment combined with 'spot checks' for water voles) to inform the approach to mitigation and the assessment of fragmentation effects. The study area should be proportionate to the length of habitat affected.
4. Type of works: Works with <i>permanent</i> impacts affecting 15-50m of watercourse	
Example project	Bank side revetment works
To confirm presence or likely absence of water voles	Field survey – footprint of the works, including temporary work areas, plus 100-200m upstream and downstream of the works (proportionate to the length of watercourse affected). Desk study – site and up to 2km around it (or a habitat assessment combined with 'spot checks' for water voles).
Additional information (if water voles present)	Sufficient information is likely to have been provided by the 'presence/likely absence' surveys.
5. Type of works: Works with <i>permanent</i> impacts affecting more than 50m of watercourse OR Works requiring <i>permanent</i> culverting of watercourse	
Example project	Bank side revetment works, OR Highway schemes or some residential/mixed-use developments
To confirm presence or likely absence of water voles	Field survey – footprint of the works, including temporary work areas, plus 200-500m upstream and downstream of the works (proportionate to the likely fragmentation effects). Desk study – site and up to 2-5km around it, or a habitat assessment combined with 'spot checks' for water voles.
Additional information (if water voles present)	The study area for the desk study (or habitat assessment combined with 'spot checks' for water voles) may need to be increased to inform the approach to mitigation.
6. Type of works: Very large scale works	
Example project	Coastal re-alignment projects (where there are reasonable grounds to expect the presence of water voles)
To confirm presence or likely absence of water voles	Field survey – footprint of the works, including temporary work areas, plus approximately 1km around it. Desk study – site and up to 10km around it (or a habitat assessment combined with 'spot checks' for water voles).
Additional information (if water voles present)	The study area for the desk study (or habitat assessment combined with 'spot checks' for water voles) may need to be increased to inform the approach to mitigation.

Appendix 3:

Field sign surveys - one site visit or two? (The Water Vole Mitigation Handbook, Page 15)

Field sign surveys – one site visit or two

The water vole is a mobile species that responds to habitat changes over the course of the breeding season: a single visit can therefore be insufficient to confirm likely absence in many cases. In addition, where water voles are present, survey data based on two visits will allow a more robust assessment of the impacts of the project, particularly where water voles use different parts of a site during different parts of the breeding season. This can also be important in determining the most appropriate approach to mitigation. These guidelines therefore recommend that two field survey visits are routinely undertaken. However, it is recognised that the second visit may not be required in some cases, and it may therefore be possible to make a case for an assessment based on one visit. Examples of scenarios where a single visit (before submitting a planning application) may be sufficient as follows:

1. Water vole presence is confirmed during the first survey visit.

A second visit may not be needed where the assessment of effects on water voles can be made on a precautionary basis (i.e. water voles are present throughout the site at the maximum density that the habitat could support), **and** the approach to mitigating incidental mortality (displacement, relocation by trapping, off-site translocation, etc.) can be determined from the first visit alone.

The assessment of the quality of the habitat, and therefore the likely maximum density of water voles, will need to consider changes to the habitat in different parts of the breeding season as a result of natural processes (e.g. changes to water level) and management activities. This can be a difficult assessment to make for many sites.

2. Water vole presence is not confirmed during the first survey visit.

A second visit may not be needed where the habitat is of very low suitability for water voles and there is a very low likelihood that water voles are present in the surrounding area - up to 2km from the area of the proposed works, or less where significant barriers to water vole dispersal are present.

The assessment of the suitability of the habitats will need to consider changes to the habitat in different parts of the breeding season as a result of natural processes and management activities. This can be a difficult assessment to make for many sites. It will be difficult to make a robust case for not undertaking a second survey where access to surrounding areas is limited or impossible.

A second visit may also not be needed where the assessment of effects on water voles can be made on a precautionary basis (as per point 1 above)

In all cases, a second visit would be advisable prior to commencing works.
