

Prescot to Cronton Cycleway- Phase 8a

Water Vole and Bat Survey Report 2022

Knowsley Council

September 2022

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position

Distribution List

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1. Introduction

Background and Site Location

AECOM was commissioned by Knowsley Metropolitan Borough Council (KMBC) to undertake a suite of ecological services to inform the proposed Prescot to Cronton cycleway development (hereafter referred to as the 'Scheme').

The Scheme aims to provide a package of walking and cycling infrastructure improvements to provide new facilities between Carr Lane, Prescot (SJ 457 924) and Sandy Lane, Cronton (SJ 498 881) via Stadt Moers Park and the proposed Halsnead Garden Village development. The Scheme is divided into a series of Phases. AECOM was commissioned by KMBC to assess only Phases 2, 3, 5, 6, 8 and 9. Only Phase 8a required planning permission and therefore stand alone reports were produced to inform the application for Phase 8a. This report is solely concerned with the water vole and bat survey work that has been carried out by AECOM in relation to Phase 8a of the Scheme, in order to inform the planning application required for Phase 8a only.

Phase 8a (hereafter referred to as the 'Site') is located to the west of Cronton Village and links Penny Lane and Fox's Bank Lane, as shown on **Figure 1** in **Appendix A**. Detailed descriptions of the Scheme and Site are provided in the Prescot to Cronton Cycleway Ecological Planning Report- Section 8a¹, issued by AECOM in August 2021.

AECOM previously carried out ecological surveys in relation to Phase 8a between April and June 2021, including an extended Phase 1 habitat survey as well as both great crested newt Habitat Suitability Index (HSI) assessments and eDNA surveys. A search for water vole field signs was also undertaken along a section of Fox's Bank Brook, which lies to the north of the Site. The methods and results of these surveys, together with a desk-based assessment, are provided in the Ecological Planning Report¹.

During the initial water vole survey undertaken by AECOM in April 2021, no conclusive evidence of water vole occupying the site was recorded along the section of Fox's Bank Brook which lies adjacent to the Site. Possible water vole footprints were noted, suggesting that a section of the brook close to the Site could be used by commuting water vole. The Ecological Planning Report¹ recommended a pre-construction survey, to be undertaken ahead of any construction works (including site clearance), to check for field signs, including burrows, of water vole to determine if this species could potentially be impacted by the proposed development.

This report provides an overview of the initial water vole survey work that was undertaken by AECOM in April 2021 and presents the methods and results of further water vole survey work that was undertaken by AECOM in August 2022, to determine if water vole were present and could therefore potentially be impacted by the Scheme and provides recommendations for mitigation and enhancement measures in relation to this species, where required.

This report also presents the methods and results of bat roost appraisal surveys and dusk emergence surveys that were undertaken on specific trees along the site in August and September 2022, along with recommendations for mitigation and enhancement measures in relation to bats where appropriate.

Survey Aims and Objectives

The aims and objectives of the water vole and bat survey work and this associated report were to:

- review existing ecological data to identify any records of water vole and bats within and up to 2 km from the Site (hereafter referred to as the 'study area');
- assess the watercourse (Fox's Bank Brook) within the water vole survey area (as shown on **Figure 1** in **Appendix A**) for its suitability for water vole;
- determine the status (presence/ likely absence) of water vole within the survey area (as shown on **Figure 1** in **Appendix A**) in order to inform the Scheme and mitigation and enhancement measures in relation to water vole;

¹ AECOM (2022) *Prescot to Cronton Cycleway Ecological Planning Report- Section 8a*

- assess trees that have been identified as requiring removal for bat roost suitability; and
- determine the status (presence/ likely absence) of roosting bats in trees that have been identified for removal in order to inform the Scheme and mitigation and enhancement measures in relation to bats.

Legislation

Water Vole

Water vole is protected under the Wildlife and Countryside Act 1981 (as amended) for which the following are offences:

- Intentional killing, injuring or taking;
- Intentionally or recklessly damaging/ destroying a place of shelter/protection;
- Intentionally or recklessly disturbing an animal in its place of shelter/ protection;
- Intentionally or recklessly obstructing access to its place of shelter/ protection; and
- Possession (live or dead, including derivatives), sale and offering for sale.

Whilst water vole and their habitat are protected under the Wildlife and Countryside Act, 1981 (as amended), there is no mechanism to licence development or other construction activities which could have an impact on water vole.

When development work is proposed in or near an area which is either known to or likely to contain water voles, then the developer will need to implement suitable mitigation to prevent impacts to water voles. The preferred mitigation option is to leave water voles in situ, with the development works adopting avoidance measures through redesign of the proposals.

Where impacts cannot be avoided, operations aimed at displacing water voles from a development site are now no longer covered by the “incidental result of an otherwise lawful action” defence in the Wildlife and Countryside Act 1981 (as amended). Displacement of water voles now needs to be undertaken under a licence.

In England, small scale (limited to continuous lengths of bank not exceeding 50 m) displacement of water voles can be carried out at certain times of the year (February to April) for the purposes of their conservation under a Class Licence by a registered person. For larger scale displacements or displacements outside of this period, displacement can be undertaken under a site-specific conservation licence. In both cases, displacement needs to demonstrate a betterment for this species.

Where it is considered that the best outcome for water voles is capture and translocation to a different location then this action is also considered by Natural England to be outside the scope of the defence as the intentional capture of water voles is unlikely to be considered ‘incidental’. In these circumstances there may be genuine grounds for issuing a conservation licence for the purpose of translocating the water vole population to suitable alternative habitat.

Bats

All species of bat found in the UK are protected under Regulation 43 of the 2017 Regulations as amended by the 2019 Regulations. This makes it an offence to deliberately capture, injure or kill a bat; deliberately disturb a bat; or damage or destroy a breeding site or resting place used by a bat.

Deliberate capture or killing is taken to include “accepting the possibility” of such capture or killing. Deliberate disturbance of animals includes in particular any disturbance which is likely a) to impair their ability (i) to survive, to breed or reproduce, or to rear or nurture their young, or (ii) in the case of animals of hibernating or migratory species, to hibernate or migrate; or b) to affect significantly the local distribution or abundance of the species to which they belong.

Where development works are at risk of causing one or more of the offences listed above, a mitigation licence from Natural England can be obtained to facilitate the works that would otherwise be illegal.

Bats are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb an animal in such a place.

Lower levels of disturbance not covered by the Conservation of Habitats and Species Regulations 2017 remain an offence under the Wildlife and Countryside Act 1981 although a defence is available where such actions are the incidental result of a lawful activity that could not reasonably be avoided.

2. Assessment Methodology

Desk Study

A desk study was undertaken in June 2020. The desk study identified nature conservation designations, and records of protected and/or notable habitats and species potentially relevant to the Scheme. As part of the desk study, existing protected and notable species records (including water vole) were requested within 2 km of the Site from the local record centre Merseyside BioBank.

The desk study was restricted to data within the last 10 years (post 2010), so that the data collated would be more likely to reflect the current (rather than historic) baseline conditions associated with the study area.

An Arboricultural Impact Assessment² of Phase 8a issued in September 2022 was also reviewed as part of the desk study.

Field Survey

Water vole

Search for Field Signs

A water vole presence/ absence survey was undertaken by AECOM on a section of Fox's Bank Brook (shown on **Figure 1**), which lies to the north of the Site, between approximate OS grid references 347877, 389079 and 348203, 389106 in April 2021.. In line with the Water Vole Mitigation Handbook³, a second survey was undertaken by AECOM on 25th August 2022 along the same stretch of the watercourse. This was to allow for variations in habitat suitability across the season and because water voles are known to utilise different areas of habitat at different times of year.

The survey methodology used was in accordance with the Water Vole Conservation Handbook⁴. This consisted of identifying the extent and distribution of water vole through searches of both banks (where possible) of the watercourse for field signs indicating recent activity (i.e., feeding stations and latrines), as well as signs of past and potentially present activity (i.e., burrows). Weather conditions were recorded and are shown below in **Table 1**.

The survey was led by a suitably experienced AECOM ecologist and comprised searching for evidence of the following signs of water vole:

- Water vole droppings of variable colour which are cylindrical usually in the order of 8 – 12 mm long, 4 – 5 mm wide and typically have blunt or rounded ends;
- latrines (collections of droppings);
- burrows;
- cropped lawns around burrows;
- piles of feeding remains;
- vegetation grazed at a distinctive 45 degree angles;
- runs;
- footprints; and
- sightings of animals.

² We Know Services (2022). Prescot to Cronton Cycleway – Phase Eight Arboricultural Impact Assessment, Forth Issue.

³ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series). Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

⁴ Strachan, R. and Moorhouse, T. (2011). Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit (WildCRU), Oxon.

It should be noted that the presence of water vole droppings and/ or latrines are the only field signs that can be used reliably to confirm presence of water vole³.

Evidence of other riparian mammals, such as otter (*Lutra lutra*), American mink (*Neovison vison*) or brown rat (*Rattus norvegicus*), were also recorded, if found.

Table 1. Weather Conditions for Water Vole Surveys

Date	Temperature (°C)	Cloud Cover (%)	Weather Notes
25 th August 2022	12	33	Light rain previous day. Survey conditions dry, light breeze with sunny spells.

Bats

Preliminary Bat Roost Appraisal

A ground-based preliminary bat roost appraisal of all accessible trees along the Site (as shown on **Figure 2**) up to the point where the route met the existing road (Penny Lane), was undertaken to confirm the presence or absence of features potentially suitable for roosting bats. This survey was carried out following the latest good practice guidelines⁵ and in accordance with the British Standards Institution (2015) BS 8596:2015 *Surveying for bats in trees and woodland – guide*. Each tree was viewed from the ground, using binoculars where necessary, from multiple angles (where accessible), to identify potential roost features (PRF) within the trees. Each tree was categorised as offering either negligible, low, moderate or high bat roost suitability.

Emergence/re-entry surveys

Following the preliminary bat roost appraisal, the trees that were assessed as having moderate or high bat roost suitability were subject to further surveys, in the form of dusk emergence surveys.

A mature oak tree (Tree G16A, shown on **Figure 2**) and a mature ash tree (Tree G16E, shown on **Figure 2**) were identified as having moderate bat roost suitability, the rest of the trees were identified as having negligible suitability. The categories given in 2022 supersede those given in any previous report. In line with the latest good practice guidelines⁵, these trees were subject to two dusk emergence surveys, on the 25th August 2022 and 21st September 2022. Both surveys were undertaken by suitably experienced AECOM ecologists, in appropriate weather conditions (as shown in **Table 2**).

During each survey, one surveyor positioned themselves in a suitable position next to each of the two trees identified as having moderate bat roost suitability, so that they could view the identified PRFs. An infrared camera was also positioned next to each of the two trees during each survey, with the aim to record any bats emerging from the trees (if present).

The surveyors listened/recorded (using a bat detector) and watched for bats emerging from the trees, if present. Information including species and numbers of bats, exit points used, and roosting locations would be recorded if bats were present.

Table 2. Weather Conditions for Dusk Emergence Surveys

Date	Temperature (°C)	Cloud Cover (0-5)	Weather Notes
25 th August 2022	18	0	Warm, dry, calm weather.
21 st September 2022	17	2	Warm, still, dry

Survey Limitations

No significant survey limitations were noted during the surveys.

⁵ Collins, J.(ed) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edition). The Bat Conservation Trust. London

Quality Assurance

All surveys were led by a suitably experienced ecologists, The report has been written, reviewed, and approved by ecologists who abide by the professional standards required by the Chartered Institute of Ecology and Environmental Management (CIEEM).

3. Results

Desk Study

There are two recent records of water vole in the Study Area, both from February 2016 and located approximately 1.8 km south west of Phase 8a.

The desk study identified 15 records of bats within the 2km Study Area, dated within the last 10 years. The species include; brown long-eared (*Plecotus auritus*), common pipistrelle (*Pipistrellus pipistrellus*), noctule (*Nyctalus noctule*) and soprano pipistrelle (*Pipistrellus pygmaeus*) bats. Bats are local Biodiversity Action Plan (LBAP) species for North Merseyside.

The Arboricultural Assessment Report² identified one ash tree (T14), see **Figure 2**, as having potentially moderate bat roost suitability. This tree however, was scoped out during the preliminary bat roost appraisal survey undertaken by AECOM as no PRF's were identified. Possible knot holes identified were found to not be deep enough for use by bats during inspection. Tree T14 is now considered to have negligible suitability for roosting bats.

Field Survey

Water vole

Search for Field Signs

A description of the sections of Fox's Bank Brook that were surveyed for water vole and field signs found during the 2021 and 2022 water vole surveys undertaken by AECOM are provided in **Table 3** below. The field sign locations are shown on **Figure 1** in **Appendix A**. Photographs are provided in **Appendix B**.

Table 3. Brook Description and Field Signs

Feature	Description	Field Signs Recorded – recorded on 28 th April 2021	Field Signs Recorded – recorded on 25 th August 2022
Fox's Bank Brook	Slow flowing brook with clay banks. There is some evidence of management and stone banks in places. Dense vegetation is also present along some edges of the brook.	Small mammal prints identified on the banks, throughout the length of watercourse surveyed. These are likely brown rat footprints but some were identified as possible water vole prints.	Small mammal prints identified on the banks, throughout the length of watercourse surveyed. These are likely brown rat footprints.

Bats

Preliminary Bat Roost Assessment

Descriptions of the trees with bat roost suitability that lie to the north of the Site provided in **Table 4** below. All of the trees that were assessed and their respective bat roost suitability (negligible to high) are shown on **Figure 2** in **Appendix A**. Photographs are provided in **Appendix B**.

Table 4. Results of Preliminary Bat Roost Appraisal

Feature	Tree Group (as defined in Arboricultural Report ²)	Description	Bat Roost Suitability	Reference (Figure 2)
Ash tree	Located within G16 group.	Easternmost of mature ashes which have been identified as potentially requiring removal. There is one south facing hole in a branch which goes east. One northeast facing woodpecker hole and one north facing cavity in in large northeast facing branch, approximately 5-6 m from the ground.	Moderate	G16E
Oak tree	Located within G16 group.	Located at the western end of G16 group.. Large southwest facing split from the base of the tree to approximately 2.5 m high from the ground. Some vegetation potentially limiting accessibility of feature, but not completely blocked.	Moderate	G16A

Emergence Surveys

The results of the dusk emergence surveys carried out on the two trees identified as having moderate bat roost suitability (G16A and G16E) are provided in **Table 5** below.

Table 5. Results of Bat Dusk Emergence Surveys

Feature	Survey Findings – Survey 1 25 th August 2022	Survey Findings – Survey 2 21 st September 2022
Ash tree (G16A)	No bat emergence observed. Bat activity identified within the Site. Common and soprano pipistrelle, and a <i>Myotis</i> spp were. identified foraging along the tree line.	No bat emergence recorded. <i>Pipistrelle sp.</i> bats recorded foraging along the tree line.
Oak tree (G16E)	No bat emergence recorded. Bat activity identified within the Site. Common and soprano pipistrelle, and <i>Pipistrelle spp.</i> were identified foraging along the tree line.	No bat emergence recorded. <i>Pipistrelle sp.</i> bats were recorded commuting along the tree line.

4. Conclusion and Recommendations

Water vole

No conclusive evidence was found during the April 2021 and September 2022 water vole surveys to confirm water vole presence, therefore it is concluded that water vole are likely absent from the section of Fox's Bank Brook which lies to the north of the Site at this time.

Given the suitability of the brook habitat and possible water vole footprints recorded in 2021, a pre-construction survey is recommended if works have not commenced within 12 months from the date of issue of this report (i.e. by September 2023), and it is recommended that any works likely to impact the brook are undertaken as soon as possible within this timeframe. The water vole is a mobile mammal whose populations undergo fluxes in terms of size and distribution and there is a possibility that they may colonise the brook in the future.

If later surveys find water voles to be present, then a licence may be required, along with appropriate mitigation, such as habitat degradation and/or translocation.

Standard pollution prevention guidance must be adhered to prevent indirect effects on habitats and species using them. It is recommended to provide at least a 5m buffer, including temporary demarcation fencing, between the works and the top of the banks of the watercourse unless works are unavoidably required within this distance. This includes for storage of all materials. A tool box talk for water voles should be provided to construction staff on site by an ecologist.

Bats

No evidence of roosting bats was identified during the August and September 2022 surveys, therefore it is concluded that roosting bats are likely absent from trees G16A and G16E (shown on **Figure 2**) at this time. All other trees included in the preliminary bat roost appraisal undertaken by AECOM in 2022 were assessed as having negligible suitability for bats. Although no bats were recorded within the trees, it is recommended, as a precaution, that these trees are soft felled in sections if they cannot be retained.

Given the presence of bat activity within the Site, and known presence within the wider area, the trees will require further surveys should the works have not been commenced within 24 months from the date of issue of this report (i.e. by September 2024). A tool box talk for bats should be provided to construction staff on site by an ecologist.

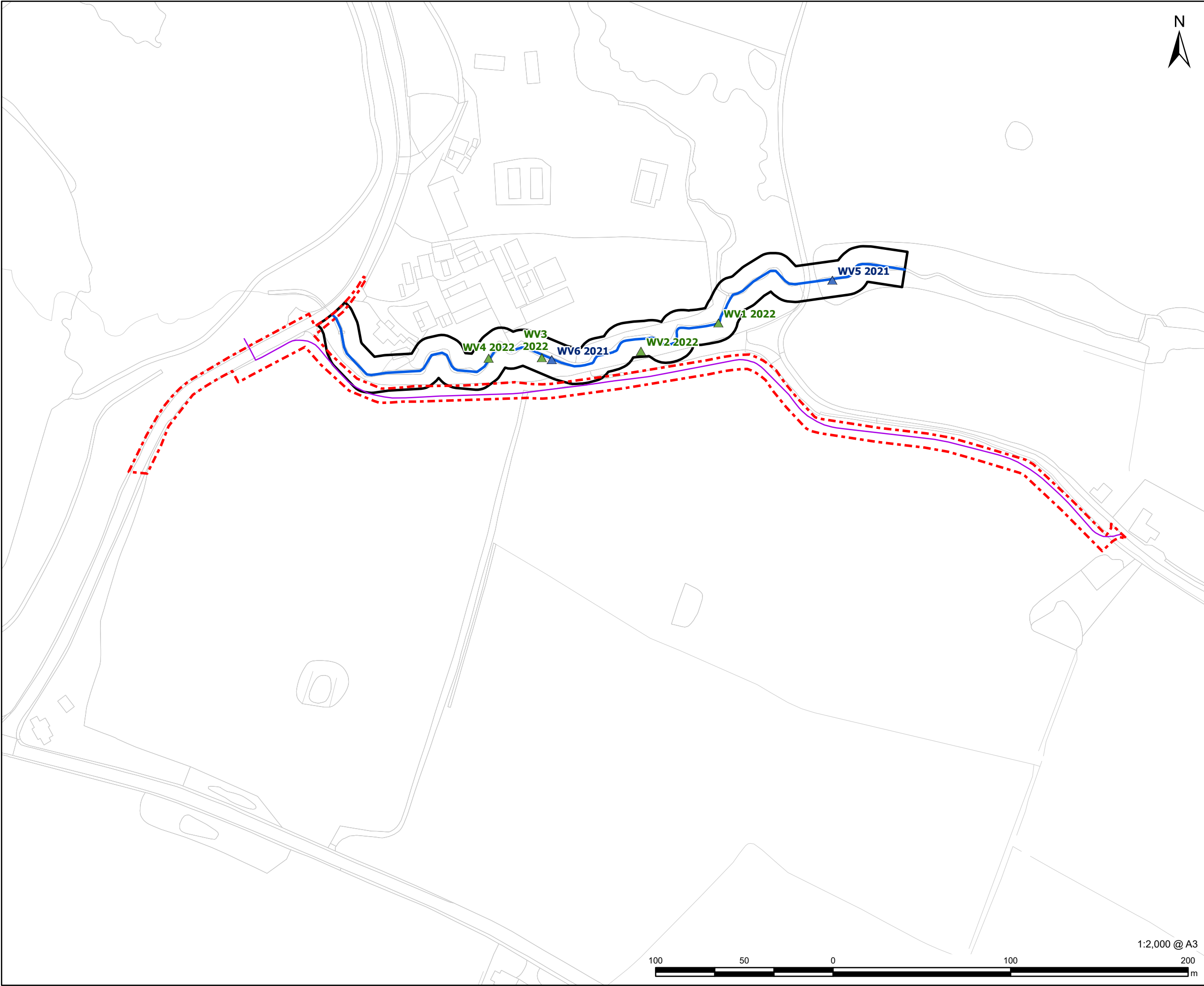
The following enhancements are recommended for biodiversity as part of the Scheme.

- Enhancement of the ditches for the benefit of water vole and other small mammals should also be considered to mitigate negative effects resulting from the Scheme.
- Provision of hibernacula (e.g. log piles) to provide shelter for invertebrates, small mammal species, and reptiles using the logs of the trees to be removed.
- Provision of bat boxes within retained suitable trees to benefit bat populations within the wider area.

Appendix A Figures

Figure 1: Water Vole Survey Results

Figure 2: Preliminary Bat Roost Appraisal



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LEGEND

Prescot to Cronton Cycleway - Proposed
Route Centreline

- Phase 8a Site
- Scheme Limit
- Small Mammal Footprints (2021 Survey)
- Small Mammal Footprints (2022 Survey)
- Fox's Bank Brook - Water Vole Survey Area
- Fox's Bank Brook - Water Vole Survey Area - 10m Buffer

NOTES

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ISSUE PURPOSE

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FIGURE TITLE

Water Vole Survey Results

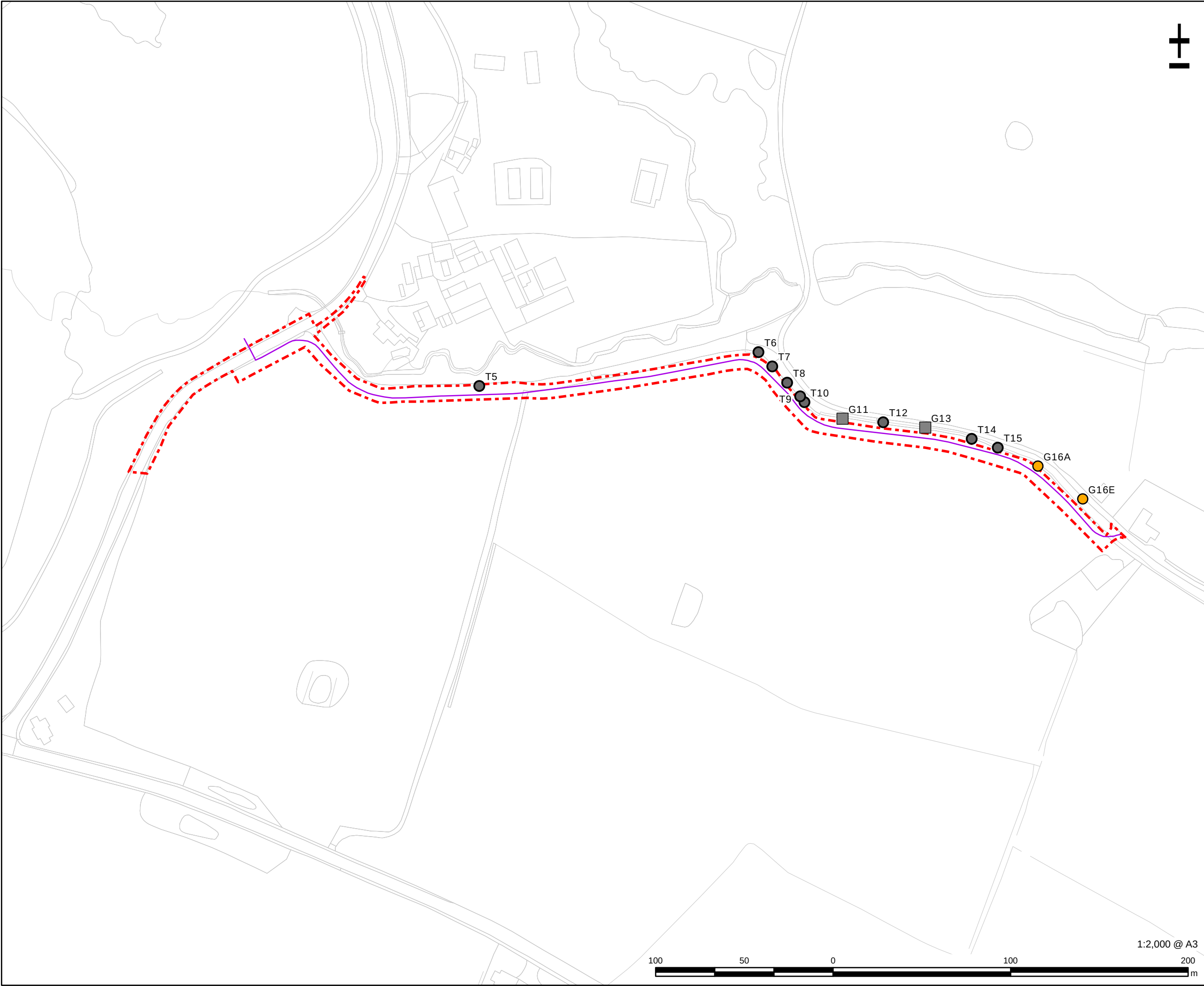
FIGURE NUMBER

Figure 1

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LEGEND

Prescot to Cronton Cycleway - Proposed
Route Centreline

Phase 8a

Scheme Limit

Bat Roost Potential - Individual Tree

Moderate

Negligible

Bat Roost Potential - Group of Trees

Negligible

NOTES

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FIGURE TITLE

Preliminary Bat Roost Appraisal

FIGURE NUMBER

Figure 2

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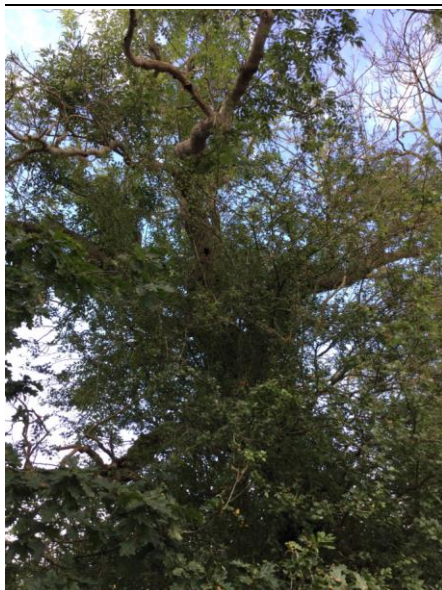
Appendix B Photographs

Photograph

Description



Oak tree (reference G16A) with moderate bat roost suitability



Ash tree (reference G16E) with moderate bat roost suitability



Fox's Bank Brook



Fox's Bank Brook



Small mammal footprints recorded along Fox's Bank Brook in
April 2021



Small mammal footprints recorded along Fox's Bank Brook in
August 2022

