Red Bank, Mill Lane, Newton-le-Willows WA12 8DF

ECOLOGICAL SURVEY AND ASSESSMENT

December 2023

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Document Control

Survey Type:	**Surveyors[1]**	**Survey Date(s)**
Phase 1 Habitat Survey	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	1st July 2021 23rd July 2023
Breeding bird surveys	Chris Swindells B.Sc. (Hons)	17th April 2023 8th June 2023
Water vole surveys	Chris Swindells B.Sc. (Hons) and assistant	1st August 2021 30th August 2021 9th June 2023
Reporting	**Personnel**	**Date**
Author	Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM Principal Ecologist	19th December 2023
Signature(s)		
Checked	ERAP	20th December 2023
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[1] *Licence reference numbers*
Bats
Victoria Burrows, Natural England Class Survey Licence (bats, Level 2) Registration Number 2015-10390-CLS-CLS
Water vole
Victoria Burrows, Natural England WML-CL31 Class Licence Registration Number CL31/00023

SUMMARY

Introduction and Scope

i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of land west of Mill Lane, Newton-le-Willows. The assessment was requested in connection with proposals to develop the site to housing.

ii. This report presents the results of a desktop study and data search, extended Phase 1 Habitat Surveys carried out in July 2021 and July 2023, breeding bird surveys carried out in April and June 2023 and water vole and otter presence / absence surveys undertaken in August 2021 and updated in June 2023.

iii. The scope of survey undertaken is appropriate to identify potential ecological constraints, inform the Masterplan, inform the outline of mitigation required and to secure maximised opportunities for biodiversity associated with the development proposals.

iv. Ecological guidance, based on the baseline surveys, has been provided to the design team throughout the preparation of the Site Layout and Landscape Masterplan. This approach has ensured that the parameters / principles of the layout have, as much as possible, followed the mitigation hierarchy to achieve a sympathetic scheme which avoids and buffers features of ecological interest and seeks to minimise and mitigate adverse effects where avoidance is not possible.

Results of Survey and Assessment

v. The approximately 5.23 hectare site is located to the south-east of Newton-le-Willows and comprises a triangular shaped arable field with a proposed access route extending southwards from Mill Lane through the arable field. The site is bordered by a railway line to the east and Newton Brook and an associated Local Wildlife Site (LWS) (a non-statutory designation for nature conservation) to the west. The northern boundary of the main development area is undefined and is a continuation of the arable field. Land north of the arable field is occupied by a residential housing site and land further south is occupied by arable farmland.

vi. Direct and indirect effects of the proposals on statutory designated sites for nature conservation are reasonably discounted.

vii. Part of the site (0.8ha of the 5.23ha site i.e. 15%) lies within Newton Brook LWS. On balance and in the presence of the conservation of the majority of the LWS and associated habitats, the accommodation of the buffer, the maintenance of waterlogged soil conditions, the accommodation of areas on the Site Layout and Landscape Masterplan to provide complementary wetland and swamp habitat alongside the retained LWS (refer to **Section 5.2**), and the implementation of works at the site under a Construction Environment Management Plan (CEMP) for Biodiversity (refer to **Section 5.3**), is it considered that the protection of the conservation status and integrity of the LWS can be achieved in the presence of the development proposals.

viii. The ecological survey has confirmed that there are no irreplaceable or Priority Habitats present at the site. Appropriate and native tree planting is achievable to compensate for the unavoidable loss of three Oak trees at the site entrance off Mill Lane.

ix. The wildlife corridor function provided by the Newton Brook corridor (Environment Agency main river) is recognised; protection of the green infrastructure function will be achieved and enhanced by the proposals and adverse effects as a result of inappropriate use of lighting near the brook corridor and associated habitats can be avoided (refer to **Section 5.2**).

x. The presence of Indian Balsam, an invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), throughout the margins of the site is a consideration and the proposals provide an opportunity to achieve the control and management of this species, refer to **Section 5.2**.

xi. No confirmed bat roosts have been detected at the site. All trees / shrubs scheduled to be removed are assessed to be of 'negligible' suitability for use by roosting bats. The retention and conservation of the site boundary features, including Newton Brook and the areas of habitat creation, greenspaces and gardens

described in **Section 5.2** and the appropriate use of lighting will conserve opportunities at the site for the attraction of foraging bats. In addition, the built development will secure the creation for roosting bats as part of good design, refer to **Section 5.4**.

xii. A maximum of one pair of nesting lapwing and two pairs of skylark (both Priority Species) were detected at site / wider survey area in the 2023 breeding bird survey season. Habitats suitable for use by these species will be removed by the proposals; this identified impact is discussed further in **Section 4.4**. Habitats suitable for use by other recorded Priority Species namely dunnock, reed bunting and song thrush will be conserved along Newton Brook. Mandatory actions to protect nesting birds during site clearance are described at **Section 5.2** and measures to provide additional opportunities for nesting birds, including additional Priority Species, as part of the proposals are detailed in **Section 5.4**.

xiii. Appropriate survey effort and / or assessment in accordance with standard guidance, has been carried out to reasonably discount direct adverse effects on other relevant protected species.

Recommendations

xiv. The recommendations in **Section 5.0** outline all the mandatory measures and additional actions to be applied to ensure compliance with wildlife legislation, the National Planning Policy Framework (NPPF) and best practice. The recommendations are summarised as:

- Retention (and protection) of as much of the land / habitats that lie within the Newton Brook LWS as possible;
- Accommodation of an undeveloped buffer and retention / creation of suitable conditions for the establishment of complementary wet grassland and swamp habitats (including the consideration of the creation of lower lying areas to encourage the collection of open water and creation of periodically inundated habitat) between the developed land and the Newton Brook LWS;
- Planting of native trees (including Oak) and scrub in appropriate positions to provide compensatory habitats for the loss of the trees and to provide a range of ages of trees and successional stages which can be of benefit to the fauna inhabiting the wider site;
- Enhancement of habitat connectivity around the margins of the site by planting native hedgerows and lines of trees around the site and through the built development;
- Accommodation of species-rich / wet grasslands within public open space (and appropriate aftercare management) to provide habitat for invertebrates and their predators such as feeding birds and bats;
- Creation (and maintenance) of paths within the new habitats at the buffer and avoidance of the creation of paths in the retained and existing habitats so that users are directed to specific areas and more natural and 'wild' areas for the refuge of wildlife are conserved;
- Landscape planting within the residential development to be composed of native species and species such as fruit trees known to be of value for the attraction of wildlife;
- Maximising the green infrastructure and green links through the site with the use of landscape planting and accommodation of trees as stepping stones;
- Arrangement and alignment of properties to create contiguous gardens (particularly rear gardens);
- Arrangement of properties to front on to areas of retained, enhanced and created habitat and areas of public open space to minimise the risk of adverse impact associated with garden extensions and fly tipping.

xv. Additional protective and beneficial measures to be secured as part of the planning application and the detailed landscape strategy / habitat creation proposals comprise:

- Further detail in relation to the habitat creation opportunities at the buffer along Newton Brook including consideration of the conditions created by the drainage strategy and scheduled topography of the site with the aim of securing the creation of complementary open water, wet grassland and swamp habitat;

- Secured long-term habitat creation and management of the retained and created habitats by the preparation and implementation of a Landscape and Ecological Management Plan (LEMP) or similar;
- Creation of log piles and habitat piles at Newton Brook to provide additional habitat for sheltering common frog and other fauna;
- Incorporation of features for wildlife such as boxes for roosting bats and nesting birds within the retained trees and the developed areas of the site (refer to **Section 5.4**);
- Design and implementation of an appropriate and sensitive lighting strategy to avoid any adverse effects on wildlife such as foraging bats, including the avoidance of lighting where not required. Lighting strategy to be prepared in accordance with reference to current guidance;
- Installation of signage / interpretation boards at the pathways in the open space to advise on the protection of the area, potentially damaging operations and a responsible user code;
- Ensure developed areas of the site are accessible to wildlife such as hedgehog (a Priority Species) by the installation of lifted gates and plot boundary fences and / or the accommodation of gaps to permit the passage of wildlife beneath.

Conclusion

xvi. It is concluded that development at the site in accordance with an appropriate Site Layout and Landscape Masterplan that takes into account the application of the mitigation hierarchy and all ecological recommendations is feasible and acceptable in accordance with relevant planning policy.

xvii. The development proposals can secure the protection of the Newton Brook LWS and associated fauna and secure the creation of appropriate and complementary habitat creation to buffer the development.

xviii. This report describes the appropriate and proportionate measures and recommendations that aim to enhance the value of the site for wildlife such as roosting bats, nesting birds and biodiversity associated with residential developments. The recommendations comprise landscape planting, habitat creation and the application of positive habitat management in the long-term to achieve measurable gains for biodiversity and compliance with the National Planning Policy Framework, local planning policy and best practice.

1.0 INTRODUCTION

1.1 Background and Rationale

1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by Wain Homes North-west Ltd to carry out an ecological assessment of land at Red Bank, Mill Lane, Newton-le-Willows WA12 8DF (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SJ 5922 9469. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).

1.1.2 The assessment was requested to inform a planning application proposing the construction of 99 dwellings with access, landscaping and open space on land west of Mill Lane, Newton le Willows.

1.2 Scope of Works

1.2.1 The scope of ecological works undertaken between July 2021 and July 2023 comprised:

a. A desktop study and data search for known ecological information at the site and the local area;

b. An Extended Phase 1 Habitat Survey and assessment, and assessment of the habitats present using the UK Habitats Classification;

c. Assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);

d. Survey and assessment of all habitats for relevant statutorily protected species[1] and other wildlife including badger (*Meles meles*), great crested newt (*Triturus cristatus*), water vole (*Arvicola amphibius*), otter (*Lutra lutra*) and reptiles;

e. Breeding bird surveys;

f. The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and

g. The identification of any further surveys or precautionary actions that may be required to inform the progression of the site through the planning process and / or prior to the commencement of any construction activities.

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

2.1.1 The following sources of information and ecological records were consulted:

a. MAGiC Maps: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;

b. Ancient Tree Inventory (Woodland Trust, 2023): An online database of ancient and veteran trees;

c. Liverpool City region Ecological Network

d. *Environment Agency Main River Map* (Environment Agency, 2023);

e. Peaty Soils Location (England) map (Natural England, 2023);

[1] In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development.

f. Merseyside BioBank (MBB), the local records centre; and

g. North Merseyside Biodiversity Action Plan (BAP).

2.1.2 This report has also been prepared with reference to the *Arboricultural Impact Assessment and Method Statement* (TBA Landscape Architects, 2023) (hereafter referred to as the 'tree survey') and the *Flood Risk and Drainage Assessment* (Ironside Farrar Limited, 2023).

2.2 Vegetation and Habitats

2.2.1 Extended Phase 1 Habitat Surveys of the site were carried out by Victoria Burrows B.Sc. (Hons) M.Sc. CEnv MCIEEM on the following dates:

Table 2.1: Extended Phase 1 Habitat Survey Dates and Weather Conditions

Date	Weather Conditions
1st July 2021	Dry, sunny with a light air (Beaufort scale 1) and an air temperature of 23ºC
23rd July 2023	Overcast with occasional heavy showers, a light air (Beaufort scale 1) and an air temperature of 17ºC

2.2.2 A habitat and vegetation map was prepared for the site and the immediate surrounding area and is appended at **Figure 2**. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.

2.2.3 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.

2.2.4 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.

2.2.5 Habitats within the site were assessed in accordance with the UK Habitats Classification / UKHab (Butcher, et al., 2020) and definitions (Butcher, et al., 2020). The UKHab has been designed to function at two scales of minimum mappable unit (MMU): fine scale (25m^2 or 5 metres length) and large scale (400m^2 or 20 metres length). It has been considered for the purposes of this survey that the fine scale of 25m^2 or 5 metres length MMU is appropriate.

2.2.6 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).

2.2.7 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

2.3.1 The survey area for badger covered the site (as annotated on **Figure 2**) and extended to accessible land within a radius of 50 metres from the site boundary. Private gardens and the railway corridor not accessed although it was possible to view the railway from the fenceline at the eastern site boundary and care was taken to search for signs of mammal pathways leading from the site to the residential gardens, particularly to the north of the arable field the site lies within.

2.3.2 The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: advice for making planning decisions* (Natural England, 2023).

2.3.3 The following signs of badger activity were searched for:

a. Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
b. Large spoil heaps outside sett entrances;
c. Bedding outside sett entrances;
d. Badger footprints;
e. Badger paths;
f. Latrines;
g. Badger hairs on fences or bushes;
h. Scratching posts; and
i. Signs of digging for food.

2.3.4 Habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat Species

Habitat Assessment for Commuting / Foraging Bats

2.3.5 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn),* (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented in **Table 2.2**.

Table 2.2: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting bats.	Negligible habitat features on site likely to be used by foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Daylight Survey: Buildings / Structures

2.3.6 There are no buildings or other structures within the site.

Daylight Survey: Trees and Shrubs

2.3.7 Trees and shrubs within the site and on the site boundaries were examined and assessed for their suitability for use by roosting bats. Inspections were carried out from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of the following features:

Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.

2.3.8 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).

2.3.9 Trees were assessed for their suitability for use by roosting bats in accordance with the guidance in Chapter 6 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)* (Collins, J. (ed), 2016).

Equipment

2.3.10 A list of equipment used is detailed in **Table 2.3**.

Table 2.3: Survey Equipment Used / Available for Use During Daylight Bat Survey

Ladders
LED Lenser P14 torch
Canon Ixus digital camera
8x20 binoculars
Ridgid Micro Inspection Camera Borescope CA-300

Bird Species

General Observations and Habitat Assessment

2.3.11 Bird species observed and heard during the Phase 1 Habitat Surveys in 2021 and 2023 were recorded.

2.3.12 Habitats throughout the site and in the immediate surrounding area were assessed for their value to wintering, roosting, feeding and nesting birds, including Priority Species, as indicated by the habitats present at the site and in the surrounding area.

Breeding Bird Surveys

2.3.13 Surveys for breeding birds at the site and land up to 200 metres of the site boundary were carried out by Chris Swindells on the following dates:

Table 2.4: Date of Breeding Bird Surveys and Weather Conditions

Date	Time	Weather Conditions
17th April 2023	06:00 to 09:30	Dry with sunshine, a light air (Beaufort scale 1) and an air temperature of 11°C
8th June 2023	05:30 to 09:00	Dry and sunny with scattered cloud, a light air (Beaufort scale 1) and an air temperature of 19°C

2.3.14 A transect of the site (margins of the arable field) and the adjacent brook corridor was walked. All visible and audible birds were recorded during the site survey following the standard recording methodology and codes of the *British Trust for Ornithology (BTO) Common Birds Census* (Marchant, 1983).

2.3.15 The survey was assisted with the use of an Opticron 80mm telescope and Nikon 10 x 50 binoculars.

2.3.16 For the purposes of this assessment birds were counted as 'breeders' within the site (or close by) if they were recorded in territorial song, observed as a family, carrying food / nest material, in an actual nest and / or repeatedly giving alarm calls thought to have a strong territorial significance. Other birds have been categorised as 'non-breeders' if they were observed flying over the site only, were not engaged in any behaviours indicative of breeding and / or the habitat is not considered to be suitable breeding habitat for that species.

Great Crested Newt and Other Amphibians

Desktop Search for Ponds

2.3.17 In accordance with *Great crested newts: advice for making planning decisions* (Natural England, 2022) all ponds within an unobstructed 500 metres of a site should be considered for their suitability to support breeding great crested newts. The potential of the proposed development to impact upon any great crested newt population(s) whose breeding ponds are within 500 metres must be considered.

2.3.18 The search of habitats in the wider area up to a distance of 500 metres from the site boundary revealed the presence of one pond, as detailed in **Table 2.5**.

Table 2.5: Ponds within 500 metres of the Site

Pond Reference	OS Grid Reference	Distance from Site Boundary	Location (refer to Figure 1)
1	SJ 59135 94909	250 metres	Along Newton Brook to the north of the site
Note: This table includes ponds which occur on OS maps but were found to be dry / not a pond upon surveying, details of ponds are presented in **Section 3.3**.			

Consideration of Requirement for Further Survey

2.3.19 The requirement for further survey at the pond was then assessed using the following criteria:

a. Presence of dispersal barriers to great crested newt / amphibian movements between pond and the site, as detected during the walkover survey;

b. Distance of pond from the site, and the potential influence of the proposed development of the site on any populations of great crested newt (if present at ponds), using the Natural England rapid risk assessment tool; and

c. Presence of other ponds which may form metapopulations and / or alter the influence of the site on ponds at greater distances.

Assessment of Terrestrial Habitat

2.3.20 An assessment of the terrestrial habitat within the site for great crested newt and other amphibians was carried out, as informed by the information provided in *Great Crested Newt Mitigation Guidelines* (English Nature / Natural England, 2001) and the *Great Crested Newt Conservation Handbook* (Langton, et al., 2001).

2.3.21 Habitats present within the site were assessed for their value to support foraging, sheltering and hibernating amphibians. Favourable habitats can comprise rough grassland, scrubland, woodland and sites with underground crevices or cracks, such as mammal holes, voids in tree stumps or banks, and refugia such as rock piles or dead wood.

Reptile Species

2.3.22 The site and its surroundings were assessed in terms of their suitability for use by reptile species using the important characteristics for reptiles outlined in the draft document '*Reptile Mitigation Guidelines*' (Natural England, 2011), and the *Reptile Habitat Management Handbook* (Edgar, et al., 2010). These habitat characteristics are outlined in **Table 2.6**.

Table 2.6: Important Habitat Characteristics for Reptiles

1. Location (in relation to species range)	7. Connectivity to nearby good quality habitat
2. Vegetation Structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Water Vole and Otter Presence / Absence Surveys

2.3.23 Newton Brook is located beyond the western site boundary.

2.3.24 The 1.4 kilometre metre long section of Newton Brook to cover the section that lies adjacent to the western site boundary, the upstream section along the rear of the houses at Pennington Drive and the downstream section to where Newton Brook meets Winwick Road (refer to **Figure 5**) was surveyed for field signs of water vole and otter and assessed for its suitability for these protected species in August 2021 and June 2023 (refer to **Table 2.7**).

2.3.25 The watercourse was accessed with the use of waders and a single person canoe. The bankside vegetation was examined from within the channel and from the top of the banks.

Table 2.7: Date of Water Vole and Otter Presence / Absence Surveys

Date	Weather Conditions
1st August 2021	Dry and sunny with scattered cloud, a light air (Beaufort scale 1) and an air temperature of 20ºC
30th August 2021	Dry and overcast with a light breeze (Beaufort scale 2) and an air temperature of 19ºC
9th June 2023	Dry with sunny intervals, a light breeze (Beaufort scale 2) and an air temperature of 19ºC

2.3.26 The survey methods detailed in *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series) Eds. Fiona Mathews and Paul Chanin* (Dean, et al., 2016), were applied and the brook and associated banks were searched for burrows, latrines, feeding remains, runs, feeding lawns, nests and footprints. The brook was assessed in accordance with the Table 2.1 of *Water Vole Field Signs and Habitat Assessment, a Practical Guide to Water Vole Surveys* (Dean, 2021)*;* Table 2.1 is reproduced at **Section 9.4** for ease of reference.

2.3.27 The otter survey was undertaken in accordance with the habitat requirements and preferences detailed in *Ecology of the European Otter. Conserving Natura 2000 Rivers, Ecology Series 10* (Chanin, 2003) and current Natural England guidance (Natural England, 2014) and searches were made for signs of otter in accordance with *Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No 10* (Chanin, 2003). The brook was searched for dung (spraints), tracks (footprints), feeding remains, otter slides (into water), holts (underground dens) and couches (above ground sites where otters rest during the day).

Other Relevant Protected Species and Wildlife

2.3.28 Evidence of other wildlife (including Priority Species) observed whilst on site (but for which specific surveys were not made) was recorded and has been included in this report where it is considered of relevance to the planning application. Habitats have been assessed for their suitability for Priority Species identified in the data search results where this is considered relevant to the application.

2.4 Survey and Reporting Limitations

2.4.1 Access to examine the trees and shrubs along Newton Brook corridor for their suitability for use by roosting bats was restricted by the dense vegetation and waterlogged soil conditions on the survey dates. Efforts were made to view the trees from both the site side and also from the path on the western side of Newton

Brook. This limitation is discussed in **Section 3.3**, particularly as it is intended to retain (and protect) all trees along the brook corridor (as detailed in the tree report).

2.4.2 No other survey limitations were experienced.

2.4.3 All measurements within this report are approximate only, and have been either, estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGiC and Google Earth.

2.5 Evaluation Methods

2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.

2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities* (NERC) *Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).

2.5.3 Each habitat and individual trees have been assessed to determine whether they are 'irreplaceable habitat', defined in *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2023)[2] as '*Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen'*.

2.5.4 Government advice on wildlife, as set out in the NPPF and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.

2.5.5 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and / or species listed by the North Merseyside Biodiversity Action Plan and the IUCN Red Lists (IUCN, 2022) has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Site Allocations

3.1.1 The area of the site where the houses are proposed is allocated as 'white land' in the St. Helens Borough Local Plan (St. Helens Borough Council, 2022). The main access road is located within the safeguarded land (Policy LPA05); this discussed further in the *Design and Access Statement* (Emery Planning, 2023).

3.1.2 As detailed below land to the west is designated as a local wildlife site (LWS) and is known locally as 'Newton Brook Greenway'.

[2] Hereafter the NPPF

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

3.1.3 The site and adjacent land have no statutory designation for nature conservation.

3.1.4 The site lies 1.7 kilometres to the south-west of Highfield Moss Site of Special Scientific Interest (SSSI) which is designated for its mixed valley mire communities on peat, acidic marshy grassland and unimproved acidic grassland. The peatland vegetation is reported as one of the best remaining examples of a raised mires which once covered large areas of lowland Greater Manchester and Merseyside.

3.1.5 Abram Flashes SSSI lies 5.3 kilometres to the north-east of the site and forms part of a series of wetlands stretching for 10 kilometres between Wigan and Leigh, known as the Wigan Flashes. Abram Flashes SSSI is important in supporting the most outstanding assemblage of breeding birds associated with open waters and wet grassland in Greater Manchester and Merseyside.

3.1.6 Woolston Eyes SSSI is located 7 kilometres to the south-east of the site and is a nationally important site for its breeding bird assemblage of lowland open waters and their margins, including nationally important numbers of black-necked grebe (*Podiceps nigricollis*), gadwall (*Anas strepera*) and pochard (*Aythya ferina*), and for wintering wildfowl.

3.1.7 The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2023):

- Pipelines, pylons and overhead cables. Any transport proposals including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals;
- Planning applications for quarries, including new proposals, Review of Minerals Permissions, extensions, variations to conditions etc. Oil and gas exploration / extraction;
- Any industrial / agricultural development that could cause air pollution including industrial processes livestock and poultry units with floorspace greater than 500m^2, slurry lagoons greater than 200m^2 and manure stores greater than 250 tonnes;
- General combustion processes exceeding 20 megawatt energy input including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works, other incineration / combustion;
- Landfill, including inert landfill, non-hazardous landfill, hazardous landfill;
- Any composting proposal with more than 75000 tonnes maximum annual operational throughput including open windrow composting, in-vessel composting, anaerobic digestion, other waste-management; and
- Large infrastructure such as warehousing / industry where total net additional gross internal floorspace following development is 1000m^2 or more.

3.1.8 The proposals do not meet any of the development categories for which the Local Planning Authority must consult Natural England on likely risks to statutory designated sites as a result of development.

Non-statutory Designated Sites for Nature Conservation

3.1.9 Land along the western margin of the site boundary is designated as a Local Wildlife Site (LWS), namely 'Newton Brook 05' LWS. A further fifteen Local Wildlife Sites lie within 2 kilometres to the site and are summarised in the table below.

Table 3.1: Local Wildlife Sites within 2 kilometres of the Site

Local Wildlife Site	Distance and Direction to Site	Reasons for Designation
Newton Brook 05	Within the site and adjacent to the western site boundary.	A section of Newton Brook with adjacent flood plain habitat. This section is diverse and includes stream, marginal vegetation, scrub and sandstone bank habitats. The site is reported to support a nationally rare species (Marsh Yellow-cress (*Rorippa islandica*)), one regionally important species (Small-flowered Crane's-bill (*Geranium pusillum*) and 3 locally important species including a liverwort (*Conocephalum conicum*), Small-flowered Crane's-bill and Royal Fern (*Osmunda regalis*). The LWS citation is presented at **Appendix 1**.
Newton Brook (SJ595941-SJ584933)	355 metres to the south of the site.	A section of Newton Brook providing good habitat for water voles.
Gallows Croft	400 metres to the south-east of the site.	Mature broad-leaved woodland on the banks of a stream. The woodland is dominated by Oak (*Quercus* sp.) and Sycamore (*Acer pseudoplatanus*) with ground flora including species such as native Bluebell (*Hyacinthoides non-scripta*), Creeping-Jenny (*Lysimachia nummularia*) and Moschatel (*Adoxa moschatellina*).
Willow Park	565 metres to the north of the site.	Willow Park contains a range of habitats including woodland, neutral grassland, marshy grassland, a stream and marginal vegetation. The park supports a number of nationally and locally important plants.
Wargrave Road, woodlands east of.	615 metres to the west of the site.	A small stand of mature woodland within the site of a former garden. The site contains a number of habitats including woodland, wetland and hedgerows contributing to a diverse range of species.
Mesnes Park and stream	640 metres to the north-west of the site.	Includes the stream within Mesnes Park. The site contains a range of habitats including scrub, neutral grassland and small areas of developing wet woodland, providing habitat for locally rare species.
Newton Lake and southern woodland	695 metres to the north of the site.	A large lake within Willow Park and associated swamp habitats and a sandstone outcrop on the eastern shore. The woodland contains one of two known rookery sites within St. Helens.
Old Hey Wood	945 metres to the west of the site.	A narrow strip of woodland on steep banks leading down to St. Helens canal with marginal vegetation occurring along the banks of the St. Helens canal. The site contains stands of native Bluebell and is important for bryophytes.
Sankey Brook, Sankey Valley	1.1 kilometres to the west.	A stretch of Sankey Brook which provides habitat for water voles.
Red Brow Wood	1.1 kilometres to the west.	Ancient semi-natural Oak woodland occupying a small valley leading down to St. Helens canal. The woodland has a diverse flora. Wetland features including standing water and a dry ditch add to the diversity of this woodland.
Castle Hill	1.2 kilometres to the north.	A sandstone hill which is an ancient motte site. Predominantly grassland with many orchids. At the foot of the hill a swamp area has developed.

Local Wildlife Site	Distance and Direction to Site	Reasons for Designation
Collingwood Road, openspace	1.3 kilometres to the north-west.	Neutral unimproved grassland and marshy grassland within an area of open space used for informal recreation. The grassland contains a number of regionally and locally important species including Common Comfrey (*Symphytum officinale*) and Smooth Tare (*Vicia tetrasperma*).
Mucky Mountains	1.4 kilometres to the west.	A disused alkali waste mound on the edge of Sankey Valley. Comprises a mosaic of grassland types including acid, neutral and calcareous grassland. The site contains a high number of regionally and locally rare species.
Crow Lane Copse	1.7 kilometres to the north-west.	An old clay pit with a partial cover of mature Oak (*Quercus* sp.) plantation. The site contains a mosaic of habitats including acid grassland, ponds and woodland.
Grassland south of towpath, Sankey Valley Park	1.9 kilometres to the west.	An extensive grassland area within Sankey Valley Park which provides important butterfly habitat. Other habitats include swamp and woodland adding to the diversity of the site.
Ellams Brook	1.9 kilometres to the north.	A stretch of Ellams Brook which provides habitat for water voles.

3.1.10 The presence of the nearby non-statutory designated sites is considered further at **Section 4.2**.

Main River Designation

3.1.11 Newton Brook, adjacent to the western site boundary is designated as Main River in accordance with the Environment Agency Main River Map (Environment Agency, 2023).

Liverpool City Region Ecological Network

3.1.12 The eastern site margin is annotated as 'woodland' by the Liverpool City Region Ecological Network. The railway corridor and Newton Brook beyond the site boundaries are identified as 'Linear Features (line)' and a linear area along Newton Brook is annotated as 'grassland'.

3.1.13 The site does not lie within nor adjacent to a Nature Improvement Area (NIA).

Peaty Soil Location (England)

3.1.14 No areas of deep peat or peaty soils are identified on the Peaty Soils Location (England) map provided by Natural England.

Priority Habitats Inventory and Soilscape Information

3.1.15 The Priority Habitats Inventory[3] was checked via MAGiC Map; no Priority Habitats are noted for the site on MAGiC Map.

3.1.16 In accordance with *Soilscape (England)* as presented on MAGiC Map (National Soil Resources Institute, 2005), the site supports '*freely draining slightly acid sandy soils*', and the characteristic semi-natural habitats associated with the soils comprise '*acid dry pastures; acid deciduous and coniferous woodland'*.

Ancient Tree Inventory

3.1.17 No ancient or veteran trees are identified at the site or within 50 metres of the site boundary by the Ancient Tree Inventory.

[3] A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

Protected and Notable Species

3.1.18 Merseyside BioBank hold no records of protected and notable species for the site.

3.1.19 Records of protected and notable species for a 2 kilometre radius of the site are summarised at **Table 3.2** below.

Table 3.2: Records of Protected Species Within a 2 Kilometre Radius of the Site

Taxon Group	Species Name and Designations[1] and Notes
Amphibians	Common frog (*Rana temporaria*): 10 records, dated between 1992 and 2019, the closest of which is 1180m from the site.
	Common toad (*Bufo bufo*): PS. 4 records, dated between 2007 and 2018, the closest of which is 1540m from the site.
	Great crested newt (*Triturus cristatus*): EPS, WCAs5, PS & NMBAP. 1 record, dated 2010, 1490m from the site.
	Palmate newt (*Lissotriton helveticus*): 25 records, dated between 2004 and 2005, the closest of which is 180m from the site.
	Smooth newt (*Lissotriton vulgaris*): A total of 35 records, dated between 2000 and 2010, the closest of which is 1470m from the site.
Birds	Barn owl (*Tyto alba*): WCAs1. 1 record, dated 2005, 1170m from the site.
	Kingfisher (*Alcedo atthis*): WCAs1. 2 records, dated in 2005 and 2006, the closest of which is 1150m from the site.
	PS & NMBAP Corn bunting (*Emberiza calandra*), grey partridge (*Perdix perdix*), house sparrow (*Passer domesticus*), skylark (*Alauda arvensis*), song thrush (*Turdus philomelos*) and starling (*Sturnus vulgaris*).
	PS only Cuckoo (*Cuculus canorus*), dunnock (*Prunella modularis*), lapwing (*Vanellus vanellus*), reed bunting (*Emberiza schoeniclus*), wood warbler (*Phylloscopus sibilatrix*) and yellowhammer (*Emberiza citrinella*).
	NMBAP only House martin (*Delichon urbicum*) and swift (*Apus apus*).
Bony fish (*Actinopterygii*)	European eel (*Anguilla anguilla*): PS.
Conifer	Juniper (*Juniperus communis*): PS.
Flowering plants	Bluebell (*Hyacinthoides non-scripta*): WCAs1 and NMBAP. 51 records, dated between 1981 and 2019, the closest of which is 1020m from the site.
Insects (butterflies)	Wall (*Lasiommata megera*): PS.
Insects (dragonflies)	**NMBAP** Azure damselfly (*Coenagrion puella*), banded demoiselle (*Calopteryx splendens*), black darter (*Sympetrum danae*), black-tailed skimmer (*Orthetrum cancellatum*), blue-tailed damselfly (*Ischnura elegans*), brown hawker (*Aeshna grandis*), common blue damselfly (*Enallagma cyathigerum*), common darter (*Sympetrum striolatum*), common hawker (*Aeshna juncea*), emerald damselfly (*Lestes sponsa*), emperor dragonfly (*Anax imperator*), four-spotted chaser (*Libellula quadrimaculata*), large red damselfly (*Pyrrhosoma nymphula*), migrant hawker (*Aeshna mixta*), ruddy darter (*Sympetrum sanguineum*) and southern hawker (*Aeshna cyanea*).
Moss	Spreading-leaved beardless-moss (*Weissia squarrosa*): PS.
Terrestrial mammals	Bats (Order *Chiroptera*): EPS, WCAs5 & NMBAP. 6 records, dated between 2007 and 2018, the closest of which is 1510m from the site.
	Brown hare (*Lepus europaeus*): PS & NMBAP. 16 records, dated from 1971, the closest of which is 1100m from the site.
	Brown long-eared bat (*Plecotus auritus*): EPS, WCAs5, PS & NMBAP. 1 record, dated 2014, 720m from the site.
	Common pipistrelle (*Pipistrellus pipistrellus*): EPS, WCAs5 & NMBAP. 28 records, dated between 2000 and 2019, the closest of which is 1200m from the site.

Taxon Group	Species Name and Designations[1] and Notes
	Daubenton's bat (*Myotis daubentonii*): EPS, WCAs5 & NMBAP. 4 records, dated between 1999 and 2013, the closest of which is 1220m from the site.
	Eurasian badger (*Meles meles*): PBA92. 1 record, dated 2005, 900m from the site.
	European otter (*Lutra lutra*): 6 records, dated between 1951 and 2014, the closest of which is 1140m from the site.
	European water vole (*Arvicola amphibius*): WCAs5, PS & NMBAP. 18 records, dated between 1983 and 2009, the closest of which is 1050m from the site.
	Noctule bat (*Nyctalus noctula*): EPS, WCAs5, PS & NMBAP. 8 records, dated between 2000 and 2014, the closest of which is 180m from the site.
	Pipistrelle bat species (*Pipistrellus* sp.): EPS, WCAs5 & NMBAP. 5 records, dated between 1989 and 2013, the closest of which is 1220m from the site.
	Soprano pipistrelle (*Pipistrellus pygmaeus*): EPS, WCAs5, PS & NMBAP. 7 records, dated between 2004 and 2018, the closest of which is 1670m from the site.
	Unidentified bat (*Myotis* sp.): EPS, WCAs5 & NMBAP. 3 records, dated between 2005 and 2014, the closest of which is 720m from the site.
	West European hedgehog (*Erinaceus europaeus*): PS. 29 records, dated between 2003 and 2019, the closest of which is 1050m from the site.

[1]Key to Designation Codes:
EPS = European Protected Species under the *Conservation of Habitats and Species Regulations 2017* (as amended).
WCAs1 = Species receives full protection under Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended).
WCAs5 = Species receives full protection under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended).
PBA92 = Protection of Badger Act 1992.
PS = Priority Species listed under Section 41 of the NERC Act 2006.
NMBAP = Species listed on the North Merseyside Biodiversity Action Plan.

3.1.20 The presence of these protected and notable species within the wider area has been taken into account throughout this report.

3.2 Vegetation and Habitats

General Description

3.2.1 The approximately 5.23 hectare site is located to the south-east of Newton-le-Willows and comprises a triangular shaped arable field with a proposed access route extending southwards from Mill Lane through the arable field. The site is bordered by a railway line to the east and Newton Brook and the associated Local Wildlife Site (LWS) to the west. The northern boundary of the main development area is undefined and is a continuation of the arable field. Land north of the arable field is occupied by a residential housing site and land further south is occupied by arable farmland. Further west, beyond Newton Brook is Newton-le-Willows Cemetery.

3.2.2 A Phase 1 Habitat Survey map is appended at **Figure 2**. Photographs are appended in **Table 9.1**.

Arable Field

3.2.3 Refer to **Photos 1** to **5**. The arable field was planted to an oat crop in 2021 and 2023. The arable field is not indicative of a specific NVC community and is described by the UKHab as c1c cereal crops.

3.2.4 There is no evidence of the specific management of the arable field margins for nature conservation. No plant species that can be associated with arable field margins in the correct conditions such as Corn Spurrey (*Spergula arvensis*) (a species listed as 'Vulnerable' in *The Vascular Plant Red Data List for Great Britain (2005))*, Field Pansy (*Viola arvensis*) and Wild Radish (*Raphanus raphanistrum*) were found in 2021 or 2023.

3.2.5 The narrow (0.5 to 1 metre wide) field margins where the agricultural machinery has not accessed and tractor tyre routes through the crop are colonised by sparse ruderal herbs indicative of disturbed and fertile soils. The sparse ruderal vegetation is characterised by constant and abundant Yorkshire-fog (*Holcus lanatus*) and False Oat-grass (*Arrhenatherum elatius*) with frequent / locally abundant Red Fescue (*Festuca rubra*) and Cock's-foot (*Dactylis glomerata*) and frequent Perennial Rye-grass (*Lolium perenne*) and Rough

Meadow-grass (*Poa trivialis*). Herb species include very locally abundant Rosebay Willowherb (*Chamerion angustifolium*), frequent Cleavers (*Galium aparine*) and locally frequent Creeping Buttercup (*Ranunculus repens*) and Scentless Mayweed (*Tripleurospermum inodoroum*). A plant species list is appended at **Table 9.2**.

Vegetation at the Proposed Site Entrance off Mill Lane (Target Note 1)

3.2.6 Refer to **Photos 6** to **7**. At the proposed site entrance off Mill Lane the land slopes downhill between Mill Lane and the arable field. The bank is colonised by neutral grassland and tall-herb vegetation characterised by abundant Yorkshire-fog and locally frequent Red Fescue, Barren Brome (*Bromus sterilis*), Cock's-foot and Rough Meadow-grass with locally abundant stands of Common Nettle (*Urtica dioica*) and associated very locally frequent Cleavers and very locally abundant False Oat-grass. Other herbs include locally abundant Ivy (*Hedera helix*) and occasional Broad-leaved Dock (*Rumex obtusifolius*) and Dandelion (*Taraxacum officinale* agg.) with stands of locally frequent Bramble (*Rubus fruticosus* agg.).

3.2.7 Five semi-mature Pedunculate Oak (*Quercus robur*) trees are present (trees 3T, 4T, 5T, 6T and 7T on the tree survey) with an understory of abundant Hawthorn (*Crataegus monogyna*) (2G) and frequent Holly (*Ilex aquifolium*). A plant species list is appended at **Table 9.3**.

3.2.8 The habitat has characteristics of an MG1 *Arrhenatherum elatius* community of the NVC (Rodwell, 1992) with stands of the OV24 *Urtica dioica-Galium aparine* tall herb vegetation. The area is described by the UKHab as g3c other neutral grassland with the secondary codes 10 scattered scrub, 11 scattered trees and 77 neglected (unmanaged for 3 to 10 years).

Newton Brook Corridor

3.2.9 Refer to **Photo 8** to **10**. The Newton Brook corridor along the western and south-western margin of the site is characterised by a mosaic of neutral grassland, tall-herb vegetation and Reed Canary-grass (*Phalaris arundinacea*) and Common Reed (*Phragmites australis*) swamp with scattered trees and shrubs.

3.2.10 The areas of neutral grassland are characterised by constant and abundant False Oat-grass, Creeping Thistle (*Cirsium arvense*) and Yorkshire-fog with locally frequent Red Fescue, Wild Angelica (*Angelica sylvatica*) and Common Bent (*Agrostis capillaris*).

3.2.11 The swamp areas comprise dense stands of either Reed Canary-grass to form the S28 *Phalaris arundinacea* community of the NVC or Common Reed to form the S4 *Phragmites australis* swamp community (Rodwell, 1995). Plants associated with the swamp habitats comprise locally very abundant Hemlock Water-dropwort (*Oenanthe crocata*), locally abundant Great Willowherb (*Epilobium hirsutum*) and very locally abundant Hedge Bindweed (*Calystegia sepium*) and Bulrush (*Typha latifolia*).

3.2.12 Trees and shrub comprise locally abundant Goat Willow (*Salix caprea*), locally frequent Crack Willow (*Salix fragilis*) and Grey Willow (*Salix cinerea*) with frequent Hawthorn and occasional Elder (*Sambucus nigra*).

3.2.13 The entire corridor was covered with vegetation (including the area annotated as Pond 1 on **Figure 1**) No areas of open water were present in July 2021 or July 2023 although the ground was waterlogged.

3.2.14 No plants of Marsh Yellow-cress (*Rorippa islandica*), Small-flowered Crane's-bill (*Geranium pusillum*) or Royal Fern (*Osmunda regalis*) were recorded, although the habitats along the brook corridor remain suitable for these species.

3.2.15 Closer to the margins of the brook are plants of Yellow Iris (*Iris pseudacorus*), Reed Sweet-grass (*Glyceria maxima*) and Remote Sedge (*Carex remota*).

3.2.16 A plant species list for the Newton Brook corridor is appended at **Table 9.4**.

3.2.17 The vegetation mosaic forms the MG1 Arrhenatherum elatius community, OV27 Chamerion angustifolium and OV24 Urtica dioica–Galium aparine communities and W24 Rubus fruticosus-Holcus lanatus scrub community, and S28 Phalaris arundinacea and S4 Phragmites australis swamp communities of the NVC with trees and shrubs.

3.2.18 The mosaic is described by the UKHab as f2f other swamps, g3c other neutral grassland and h3d Bramble scrub with the secondary codes 10 scattered scrub, 11 scattered trees 77 neglected.

Invasive Plant Species

3.2.19 No Japanese Knotweed is present at the site.

3.2.20 As illustrated on **Figure 2**, Indian Balsam is locally very abundant along the eastern margin of the site (parallel to the railway line) and it encroaches into the arable field. Indian Balsam is also present along Newton Brook. This species is listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended); it is an offence to spread or cause its spread in the wild. This is considered further at **Section 4.3** below.

3.2.21 Stands of Japanese Knotweed were recorded along Newton Brook both upstream and downstream of the site; these stands lie a significant distance beyond the likely zone of construction works.

Habitats Beyond the Site Boundary

Railway Corridor / Beyond the Eastern Site Boundary

3.2.22 Refer to **Photo 11**. Beyond the demarcation fencing at the railway at the eastern site margin is a narrow strip of vegetation between the fence and the active railway line. The vegetation has a similar plant species composition to the margins of the arable field and is characterised by a mosaic of neutral grassland (MG1 *Arrhenatherum elatius* community of the NVC), tall-herb vegetation (OV27 *Chamerion angustifolium* and OV24 *Urtica dioica–Galium aparine* communities (Rodwell, 2000)) and Bramble scrub to form the W24 *Rubus fruticosus-Holcus lanatus* scrub community of the NVC (Rodwell, 1991) with saplings of Oak and Elder.

Newton Brook Corridor / Beyond the Southern and Western Site Boundaries

3.2.23 The vegetation beyond the western site boundary is a continuation of the mosaic of neutral grassland, tall-herb, swamp and scattered trees and shrub vegetation described along the Newton Brook corridor.

3.3 Animal Life

Badger

3.3.1 The habitats at the site are suitable for use by badger. However, no signs of badger such as setts, snuffle holes, tracks, hairs or burrows were detected at the site and survey area. The presence of badger is reasonably discounted.

Bat Species

Habitat Assessment for Commuting and Foraging Bats

3.3.2 The arable field with narrow margins and an absence of trees is assessed to be of 'low' suitability for use by foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn),* (Collins, J. (ed), 2016).

3.3.3 The Newton Brook corridor and the associated swamp vegetation over waterlogged soil with scattered trees and shrubs provides a linear habitat assessed to be of 'high' suitability for the attraction of foraging bats. When considered in its context with the built development to the west of the brook and the arable land within the site and the wider area (all assessed to be of 'low' suitability for use by foraging bats) the corridor is considered to provide a valuable corridor for use by foraging and commuting bats.

Daylight Survey: Trees

3.3.4 None of the trees within the site trees support any features suitable for use by roosting bats. All trees are assessed to be of 'negligible' suitability for use by roosting bats.

3.3.5 As identified in **Section 2.4** access to view the trees along Newton Brook corridor was limited and this is a recognised survey limitation. As detailed in the tree report, all trees along the brook will be retained (and protected during construction). In addition, the swales to be created to direct surface water from the site to the brook will avoid trees (refer to **Section 5.0**).

Bird Species

General Observations and Habitat Assessment

3.3.6 Bird species noted at the site during the Phase 1 Habitat Surveys comprise blackbird, magpie, wood pigeon, and jackdaw; all were associated with the vegetation at Newton Brook.

3.3.7 Subject to the arable crop regime the field may be used by breeding farmland birds such as lapwing and skylark (both Priority Species).

3.3.8 The mosaic of swamp habitats with Willow scrub at Newton Brook are assessed to be suitable for use by Priority Species such as reed bunting and associated species such as sedge warbler, reed warbler and willow warbler.

3.3.9 Large arable fields can be used by wintering birds and passage migrants such as pink-footed goose (*Anser brachyrhynchus*) and whooper swan (*Cygnus cygnus*). It is considered that the field off Mill Lane is too enclosed by trees and shrubs and residential properties and too close to existing disturbances such as the railway corridor, Mill Lane and the M6 motorway to be selected by wintering and passage migrant birds in the autumn and winter months. It is advised that the site does not provide habitat for use by wintering birds and it does not provide functionally-linked land relevant to the estuarine sites in the wider area (beyond 10 kilometres from the site).

Results of Breeding Bird Surveys 2023

3.3.10 A summary of the bird species recorded at the site and survey area in April and June 2023 is presented in **Table 3.3**. The raw data are provided at **Table 9.5** and **9.6** at **Section 9.3**.

Table 3.3: Summary of Results of Breeding Bird Survey 2023

		17th April 2023	8th June 2023		
	Total No. Species	29	33		
	Total Birds	125	140		
Scientific Name	**Common Name**	**Number Seen**	**Number Seen**	**Total**	**No. Surveys Observed**
Acrocephalus schoenobaenus	Sedge warbler	0	1	1	1
Aegithalos caudatus	Long-tailed tit	5	1	6	2
Alauda arvensis	**Skylark**	**2**	**2**	**4**	**2**
Anas platyrhynchos	Mallard	1	0	1	1
Carduelis carduelis	Goldfinch	2	3	5	2
Carduelis chloris	Greenfinch	1	2	3	2
Certhia familiaris	Treecreeper	1	0	1	1
Columba oenas	Stock dove	0	1	1	1
Columba palumbus	Wood pigeon	16	17	33	2
Corvus corone corone	Carrion crow	2	5	7	2
Corvus monedula	Jackdaw	2	4	6	2
Cyanistes caeruleus	Blue tit	7	3	10	2
Delichon urbica	House martin	0	11	11	1
Emberiza schoeniclus	**Reed bunting**	**0**	**3**	**3**	**1**
Erithacus rubecula	Robin	14	6	20	2
Fringilla coelebs	Chaffinch	2	6	8	2
Gallinula chloropus	Moorhen	1	1	2	2
Garrulus glandarius	Jay	1	1	2	2
Hirundo rustica	Swallow	0	2	2	1
Larus fuscus	Lesser black-backed gull	0	1	1	1
Parus major	Great tit	8	2	10	2

Scientific Name	Common Name	Number Seen	Number Seen	Total	No. Surveys Observed
Passer domesticus	**House sparrow**	**6**	**14**	**20**	**2**
Phylloscopus collybita	Chiffchaff	3	3	6	2
Phylloscopus trochilus	Willow warbler	1	0	1	1
Pica pica	Magpie	4	6	10	2
Prunella modularis	**Dunnock**	**7**	**3**	**10**	**2**
Pyrrhula pyrrhula	**Bullfinch**	**0**	**1**	**1**	**1**
Regulus regulus	Goldcrest	1	1	2	2
Sitta europaea	Nuthatch	2	1	3	2
Streptopelia decaocto	Collared dove	1	1	2	2
Sturnus vulgaris	**Starling**	**3**	**4**	**7**	**2**
Sylvia atricapilla	Blackcap	4	5	9	2
Sylvia communis	Whitethroat	0	5	5	1
Troglodytes troglodytes	Wren	14	11	25	2
Turdus merula	Blackbird	11	11	22	2
Turdus philomelos	**Song thrush**	**2**	**2**	**4**	**2**
Vanellus vanellus	**Lapwing**	**1**	**0**	**1**	**1**
Priority Species are presented in **bold**.					

3.3.11 Thirty-seven bird species were recorded during the 2023 breeding bird surveys.

3.3.12 Twenty species (blackbird, collared dove, reed bunting, sedge warbler, moorhen, skylark, treecreeper, wood pigeon, blue tit, robin, blackcap, chaffinch, great tit, chiff-chaff, dunnock, nuthatch, whitethroat, wren, song thrush and lapwing) were exhibiting territorial song and behaviour indicative of breeding at the site and on the site margins.

3.3.13 Other species namely starling, house sparrow, greenfinch, goldfinch, long-tailed tit, carrion crow, magpie, jay and goldcrest (9 species) were recorded breeding in the wider surveyed area.

3.3.14 House martin and swallow were recorded feeding over the surveyed area. Stock dove (1 bird) and lesser black-backed gull (2 birds) were recorded in flight over the site only (1 bird).

3.3.15 Eight Priority Species were recorded with five of these species (dunnock, reed bunting, song thrush, skylark and lapwing) as confirmed breeders within the site boundary. Two other Priority Species (house sparrow and starling) were recorded nesting in the wider survey area (associated with the houses to the north), and the eighth species (bullfinch) was recorded resting at the site only.

3.3.16 A maximum of two pairs of nesting skylark were recorded in the survey area (with one pair in the site boundary and one pair in the northern portion of the arable field). A maximum of one pair of lapwing (in the centre of the arable field) were recorded.

3.3.17 All other breeding birds were associated with the vegetation at the site margin, particularly along the Newton Brook corridor.

Great Crested Newt and other Amphibians

3.3.18 Pond 1 as annotated on **Figure 1** is the only pond within an unobstructed 500 metres radius of the site boundary. Visits to the area in July 2021 and July 2023 confirmed that this area is entirely covered by vegetation including Common Reed, Bulrush and Reed Canary-grass. Although the ground conditions are waterlogged no areas of permanent open water were found. It is considered that this habitat is unsuitable for use by breeding great crested newt due to the absence of open water and clear margins that newts require to carry out courtship display. There are no other ponds within an unobstructed 500 metres radius of Pond 1 that may contribute to a metapopulation of great created newt in the local area. In addition, there are no reported records of great crested newt within 1.4 kilometres of the site.

3.3.19 For the reasons outlined above the presence of great crested newt is reasonably discounted.

3.3.20 During the site visits in July 2021 and particularly on 23rd July 2023 (owing to the showers) juvenile common frog were frequently noted throughout the dense mosaic of vegetation along Newton Brook. Provided the

habitat remains waterlogged, the shallow pools of water between the Reed Canary-grass and Common Reed are suitable for use by breeding common frog (and the reed vegetation can provide protection from predation by birds, for example). The crop in the arable field (particularly after harvest) provides limited opportunities for use by sheltering amphibian species and no opportunities for hibernation.

3.3.21 It is considered that the shallow pools are suitable for common frog but are not likely to support breeding common toad (a Priority Species) which prefer to spawn in deeper ponds.

Reptiles

3.3.22 The agriculturally managed habitat within the arable field site is assessed to be of 'negligible' suitability for use by sheltering, basking and hibernating reptiles. The site is not adjacent or linked to any areas of favourable habitat for reptile species and there are no reported records of reptile species in the local area. The presence of reptiles within the site is reasonably discounted.

Water Vole

3.3.23 No water vole or field signs of this species were recorded in August 2021 and June 2023. The field notes from the water vole and otter surveys are presented at **Section 9.4** and photographs of the habitats are presented at **Photos 12** to **18**..

3.3.24 Based on the disturbances along this section of the brook corridor, the absence of dense emergent vegetation in the channel, the presence of stony and reinforced banks and the poor water quality (the water had an odour and signs of sewerage were noted) it is considered that the section of Newton Brook corridor adjacent to the site is 'suitable, but poor' for use by water vole in accordance with Table 2.1 of *Water Vole Field Signs and Habitat Assessment, a Practical Guide to Water Vole Surveys* (Dean, 2021) (refer to **Table 9.7**).

3.3.25 It is recognised that the downstream section of Newton Brook is recognised as 'good habitat for water voles' (refer to **Table 3.1**) and this is taken into considered in the recommendations at **Section 5.3** in relation to the avoidance of impacts downstream during construction.

Otter

3.3.26 No otter or field signs of this species were recorded in August 2021 and June 2023. The field notes from the water vole and otter surveys are presented at **Section 9.4**.

3.3.27 The brook corridor may be used by otter moving through the area and the associated bankside vegetation may be used as lying up habitat if this species is present in the area; this is taken into considered in the recommendations at **Section 5.3**.

Other Wildlife

3.3.28 No brown hare[4] (*Lepus europaeus*) was detected at the site on the survey dates / site visits in 2021 and 2023, however the fields in the wider area are suitable for this species, as confirmed by the data search, refer to **Table 3.2**.

3.3.29 On the survey visit on 23rd July 2023 one roe deer was flushed from amongst the oat crop.

3.3.30 Incidental observations of butterfly species comprised small tortoiseshell (*Aglais urticae*), meadow brown (*Maniola jurtina*) and gatekeeper (*Pyronia tithonus*); the vegetation along Newton Brook supports larval plant species for all three of these common and widespread species.

[4] A Priority Species

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

4.1.1 It is proposed to develop the site to housing with an access through the arable field from Mill Lane at the north-eastern corner of the arable field. The proposals are presented on the *Site Layout* (DGL Associates Limited, 2023). At the time of writing a *Landscape Masterplan* (Barnes Walker, 2023) was also available (prepared in accordance with ecological guidance, see below).

4.1.2 Ecological guidance, based on the baseline surveys, has been provided to the design team throughout the preparation of the Site Layout and Landscape Masterplan. This approach has ensured that the parameters / principles of the layout have, as much as possible, been ecology-led to achieve a sympathetic scheme which avoids and buffers features of ecological interest and seeks to minimise and mitigate adverse effects where avoidance is not possible.

4.1.3 **Section 4.2** provides an assessment of any impacts of the proposed development on designated sites for nature conservation. The ecological value of habitats within the site are evaluated at **Section 4.3**, and protected and notable species are considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

Statutory Designated Site for Nature Conservation

4.2.1 Due to the distance between the site and the identified statutory designated sites for nature conservation in the wider area, direct impacts on statutory designated sites for nature conservation are reasonably scoped out.

4.2.2 It is considered that the habitats at the site do not provide complementary or functionally-linked habitats to the statutory designated sites in the wider area. In addition, there is no direct habitat or hydrological link / connectivity between the site and the statutory designated sites in the wider area.

4.2.3 Adverse direct and indirect impacts of the proposals on statutory designated site for nature conservation are reasonably discounted.

Non-statutory Designated Site for Nature Conservation

Newton Brook LWS

4.2.4 The presence of part (approximately 0.8ha (27% of the whole LWS area)) of Newton Brook LWS within the site and the proximity of the site to the Newton Brook LWS corridor including the downstream portion of Newton Brook LWS is recognised. The LWS occupies 15% of the whole site area.

4.2.5 Ecological guidance has been provided to the design team to ensure that the proposals follow 'The Mitigation Hierarchy' (i.e. avoid, mitigate, compensate) as advised by paragraph 180 of the National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2023). The guidance is outlined in **Section 5.2.** At this stage it is confirmed that, in accordance with the ecological guidance, a buffer of a maximum of 36 metres is accommodated between the built development and the eastern edge of the LWS (this achieves a maximum buffer of 75 metres between the built development and the Newton Brook channel).

4.2.6 At the southern end of the site the built development does encroach into the LWS boundary, however this area of land in the LWS boundary is currently occupied by the arable crop and bare ground of no ecological value. It is considered that the areas of minor encroachment into the LWS boundary are mitigated for by the wider buffer and opportunity for the creation of complementary habitat to the LWS at the northern end and western margin of the site and by the opportunity to convert the currently bare ground at the southern end of the site to complementary habitat. Further guidance is provided at **Section 5.2**.

4.2.7 The maintenance of waterlogged soil conditions at Newton Brook LWS to sustain the associated wet grassland swamp habitats was identified at an early point in the project. It is understood that the wet grassland and swamp habitats are currently sustained by a combination of overtopping of Newton Brook and by surface water off the arable field. The development proposals are understood to have no impact / effect on the frequency or extent of overtopping of the brook. The use of grass swales (rather than the installation of tanks and direction of water through pipes to headwalls directly on the brook banks) in the surface water drainage strategy (as reported in the *Flood Risk and Drainage Assessment* (Ironside Farrar Limited, 2023) provides a mechanism by which controlled (and cleaned) surface water is still able to 'feed' the habitats at the LWS and sustain the waterlogged conditions.

4.2.8 On balance and in the presence of the conservation of the majority of the LWS and associated habitats, the accommodation of the buffer, the maintenance of waterlogged soil conditions and the accommodation of areas on the Site Layout and Landscape Masterplan to provide complementary wetland and swamp habitat creation alongside the retained LWS (refer to **Section 5.2**), is it considered that the protection of the conservation status and integrity of the LWS can be achieved in the presence of the development proposals.

4.2.9 It is recognised that the presence of a residential development in proximity to the eastern bank of Newton Brook (which is currently relatively in accessible) owing to the arable field and presence of swamp vegetation may increase the risk of recreational pressures on the LWS. However this is mitigated by the nature of the habitats present and to be conserved (i.e. wet grassland and swamp conditions with waterlogged soil which typically acts to deter frequent access and use by dog walkers, for example) and by the proposals to accommodate a more formal footpath / boardwalk through the open space which will aim to provide designated routes. The potential for impact of recreational pressures on the habitats and fauna in the LWS can be further mitigated by the preparation and distribution of Homeowner Packs with the sale of the properties and by signage at the footpaths to advise on the wildlife value of the area, the potentially damaging operations and the need to keep dogs on leads, for example.

4.2.10 Additional measures are required to protect the LWS and its habitats and fauna during the construction period and these will be secured by the preparation and implementation of a Construction and Environment Management Plan (CEMP) for Biodiversity (refer to **Section 5.3**).

4.2.11 In addition and in the long-term the conservation and condition of the retained and created habitats along Newton Brook will be secured by the preparation and implementation of management prescriptions to be outlined in a Landscape and Ecological Management Plan (LEMP) or similar (refer to **Section 5.6**).

Other Non-statutory Designated Sites

4.2.12 It is considered that the site is sufficiently distant from the other non-statutory designated sites for nature conservation and that the proposed development will have no direct impact on other designated sites in the local area and their features of special interest.

4.3 Vegetation and Habitats

4.3.1 No survey evidence / plant species were identified to indicate that the site (or the adjacent fields) are representative of the Arable Field Margins Priority Habitat. In terms of its importance in a geographical context[5], the arable field that occupies the majority of the site is of 'site' value only.

4.3.2 None of the habitats at the site are an irreplaceable habitat or are Priority Habitat.

4.3.3 As outlined in **Section 4.2** and **5.2** the areas of minor encroachment of the development proposals into the neutral grassland at the southern end of the site can be compensated for by the creation of sustainable grassland and wet grassland and swamp habitat elsewhere along the LWS buffer.

[5] Using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system / Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

4.3.4 The identified loss / recommended removal of three Oak trees (3T, 4T and 6T) is an identified impact of the proposals. The area immediately west of the trees to be removed, areas along the access roads and the buffer habitats around the southern and western boundaries of the developed provide an appropriate space for tree planting to compensate for the tree losses. As outlined in **Section 5.2** it is recommended that Oak species are planted as compensation area (subject to appropriate soil / ground and waterlogging conditions).

4.3.5 The wildlife corridor function provided by the Newton Brook corridor (Environment Agency main river) is recognised; protection of the green infrastructure function will be achieved and enhanced by the proposals and adverse effects as a result of inappropriate use of lighting near the brook corridor and associated habitats can be avoided (refer to **Section 5.2**).

4.3.6 The presence of Indian Balsam, an invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), throughout the margins of the site is a consideration and the proposals provide an opportunity to achieve the control and management of this species, refer to **Section 5.3**.

4.4 Protected Species and Other Wildlife

Roosting Bats

4.4.1 No confirmed bat roosts have been detected at the site. All trees / shrubs scheduled to be removed are assessed to be of 'negligible' suitability for use by roosting bats.

Foraging Bats

4.4.2 The retention and conservation of the site boundary features, including Newton Brook and the areas of habitat creation, greenspaces and gardens described in **Section 5.2** will conserve opportunities at the site for the attraction of foraging bats. The retention of these features with an appropriate buffer and the sensitive use of lighting at the developed site will avoid any significant adverse effect on opportunities for foraging bats. In addition, the built development will secure the creation for roosting bats as part of good design, refer to **Section 5.4**.

Breeding Birds

4.4.3 The trees, shrubs, Bramble, dense grassland and swamp habitats within the site and on the site boundaries provide suitable habitat for nesting and foraging passerine (perching) bird species, including Priority Species such as reed bunting, dunnock and song thrush. As advised above, the proposals conserve and protect these habitats and the proposals provide an opportunity to expand the area and opportunities available for nesting passerine birds.

4.4.4 The development proposals will result in the loss of the opportunities for nesting lapwing (one pair) and skylark (one pair) at the site (and will likely displace use of the northern portion of the field by skylark (one pair)); this is an identified residual impact of the proposals. The suitability of the site and wider arable field for use by lapwing and skylark is transient and is dependent on the crop / agricultural regime. The arable conditions at the site are not unique to this area of St. Helens and alternative fields with an agricultural regime that are suitable for use by breeding lapwing are present in the wider area. The loss of the arable land at Mill Lane, and the loss of the future opportunity for use by breeding lapwing and skylark and the displacement of the lapwing to the fields to the wider area is not considered to have a significant effect on the conservation status of lapwing and skylark in the local area.

4.4.5 Mandatory actions to protect nesting birds during site clearance / unavoidable tree removal and measures to provide compensatory and enhanced opportunities for nesting birds are outlined at **Sections 5.3, 5.5** and **5.6**.

Other Protected Species

4.4.6 Appropriate survey effort and / or assessment in accordance with standard guidance, has been carried out to reasonably discount adverse effects on other relevant protected species.

4.4.7 The implementation of reasonable avoidance measures as described in **Section 5.3**, for the protection of fauna, including common frog, to be secured by a CEMP for Biodiversity is considered to be appropriate and proportionate to the impact of the proposals as the majority of the habitats suitable for use by common frog and other fauna is associated with the retained habitats along Newton Brook.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

5.1.1 Ecological guidance, based on the baseline surveys, has been provided to the design team throughout the preparation of the Site Layout and planning application to aim to ensure compliance with relevant wildlife legislation, Natural England guidance, the principles of the NPPF, relevant local planning policy and best practice.

5.1.2 Opportunities to enhance the ecological interest and habitat connectivity and seek biodiversity gains through appropriate landscape planting and habitat creation and by securing long-term management have been identified, as required by the NPPF and other relevant planning documents.

5.1.3 The recommendations aim to ensure compliance with Chapter 15, paragraph 185(b) of the NPPF which states:

'promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

5.1.4 The recommendations also contribute to the separate *Assessment of Biodiversity Net Gain* an aim to achieve compliance with *Biodiversity Net Gain: Good Practice Principles for Development* (CIEEM, 2016).

5.2 Recommendations in Relation to the Planning Layout and Design

5.2.1 The following recommendations were made and are accommodated by the Site Layout and the Landscape Masterplan:

- Retention (and protection) of as much of the land / habitats that lie within the Newton Brook LWS as possible;
- Accommodation of an undeveloped buffer and retention / creation of suitable conditions for the establishment of complementary wet grassland and swamp habitats (including the consideration of the creation of lower lying areas to encourage the collection of open water and creation of periodically inundated habitat) between the developed land and the Newton Brook LWS;
- Planting of native trees (including Oak) and scrub in appropriate positions to provide compensatory habitats for the loss of the trees and to provide a range of ages of trees and successional stages which can be of benefit to the fauna inhabiting the wider site;
- Enhancement of habitat connectivity around the margins of the site by planting native hedgerows and lines of trees around the site and through the built development;
- Accommodation of species-rich / wet grasslands within public open space (and appropriate aftercare management) to provide habitat for invertebrates and their predators such as feeding birds and bats;
- Creation (and maintenance) of paths within the new habitats at the buffer and avoidance of the creation of paths in the retained and existing habitats so that users are directed to specific areas and more natural and 'wild' areas for the refuge of wildlife are conserved;
- Landscape planting within the residential development to be composed of native species and species such as fruit trees known to be of value for the attraction of wildlife;
- Maximising the green infrastructure and green links through the site with the use of landscape planting and accommodation of trees as stepping stones;

- Arrangement and alignment of properties to create contiguous gardens (particularly rear gardens);
- Arrangement of properties to front on to areas of retained, enhanced and created habitat and areas of public open space to minimise the risk of adverse impact associated with garden extensions and fly tipping.

5.2.2 Additional protective and beneficial measures to be secured as part of the planning application and the detailed landscape strategy / habitat creation proposals comprise:

- Further detail in relation to the habitat creation opportunities at the buffer along Newton Brook including consideration of the conditions created by the drainage strategy and scheduled topography of the site with the aim of securing the creation of complementary open water, wet grassland and swamp habitat;
- Secured long-term habitat creation and management of the retained and created habitats by the preparation and implementation of a Landscape and Ecological Management Plan (LEMP) or similar;
- Creation of log piles and habitat piles at Newton Brook to provide additional habitat for sheltering common frog and other fauna;
- Incorporation of features for wildlife such as boxes for roosting bats and nesting birds within the retained trees and the developed areas of the site (refer to **Section 5.4**);
- Design and implementation of an appropriate and sensitive lighting strategy to avoid any adverse effects on wildlife such as foraging bats, including the avoidance of lighting where not required. Lighting strategy to be prepared in accordance with reference to current guidance, namely:
  - *Guidance Note 08/23: Bats and Artificial Lighting at Night* (Institution of Lighting Professionals & Bat Conservation Trust, 2023); and
  - Bats and lighting: Overview of current evidence and mitigation guidance (Stone, 2014).
- Installation of signage / interpretation boards at the pathways in the open space to advise on the protection of the area, potentially damaging operations and a responsible user code;
- Ensure developed areas of the site are accessible to wildlife such as hedgehog (a Priority Species) by the installation of lifted gates and plot boundary fences and / or the accommodation of gaps to permit the passage of wildlife beneath, refer to **Insert 1**.

Insert 1: Wildlife access gaps

5.3 Protection of Existing Features During Construction and Construction Environment Management Plan (CEMP) for Biodiversity

Introduction

5.3.1 To inform the site preparation and construction activities it is recommended that a Construction Environment Management Plan (CEMP) for Biodiversity is prepared and implemented. The CEMP for Biodiversity will describe the following actions / measures:

Preparation of Programme of Works and Toolbox Talk

5.3.2 In accordance with best practice, prior to the commencement of works it is essential that an ecologist is involved in the site preparation planning and the proposed programme of works. In addition it is recommended that an Ecological Toolbox Talk is provided by an ecologist to all site personnel prior to the start of works.

5.3.3 It is likely that a specific ecological method statement will be required to describe the protective measures and works to be applied during the excavation of the swales in the LWS; this may include the completion of pre-works surveys for otter and water vole in the working area.

Protection of Existing Vegetation

5.3.4 During the construction phase, temporary protective demarcation fencing will be used to protect the habitats to be retained. The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

Invasive Plant Species and Biosecurity

5.3.5 An Invasive Plant Species Management Plan will be prepared to outline the works to avoid / manage / eradicate the identified invasive plant species (Indian Balsam).

5.3.6 To minimise the risk of introduction of invasive species to the site *and* the spread of invasive species around the site and into the adjacent habitats, all machinery / plant to be brought to the site must be clean. Wheels / tracks of machinery / plant must have been pressure washed before use at the site.

5.3.7 No excessive remnant soil or plant material from other sites must be present on the machinery / plant or in the tyre treads as this may increase the risk of spread of non-native and invasive plant species e.g. Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

Lighting

5.3.8 Paragraph 191, bullet point 'c' in Chapter 15 (conserving and enhancing the natural environment) of the NPPF states that development should:

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

5.3.9 Any lighting to be used during the construction phase must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the retained habitats as lighting overspill may deter use by wildlife such as foraging bats.

Protection of Water Quality

5.3.10 The water quality of Newton Brook will be protected during the construction operations through the implementation of best practice. In the absence of any updated guidance, following Pollution Prevention Guidelines (PPG) will be adhered to:

a. PPG1: Basic good environmental practices (Environment Agency, 2013);
b. PPG5: Works in, near or over watercourses (Environment Agency, 2014);
c. PPG6: Construction and demolition sites (Environment Agency, 2012); and
d. PPG7: Operating refuelling sites (Environment Agency, 2011).

Dust Suppression, Incidents and Accidents

5.3.11 The risk of adverse effects on vegetation, habitats and wildlife as a result of dust, spills and leaks will be controlled by the application of best practice measures and appropriate environmental controls such as

dust suppression, appropriate storage of chemicals and fuel, presence of spill kits and appropriate training of on-site personnel.

Nesting Birds

5.3.12 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.

Best Practice Measures During Construction

5.3.13 During the site preparation and construction operations it is essential that the following best practice is applied for the protection of amphibians, deer and other fauna:

a. To ensure the guidance provided in this report remains valid it is advised that the agricultural regime at the site must be continued until the point if site stripping operations;

b. Dense vegetation must only be cleared following an inspection by an ecologist. This is of relevance during the bird nesting season and to ensure checks are carried out for nesting and hibernating hedgehog (for example);

c. No trenches must be left open overnight. Trenches or holes must be fitted with a means of escape (such as ramped edge or a sloping plank of timber). This will ensure that any inquisitive animals do not become trapped. Holes or trenches mut be checked for wildlife prior to backfilling;

d. Any pipes must be stored with caps on (to prevent animal entry);

e. No fires must be lit at the site; and

f. Any chemicals or harmful materials must be stored so that they cannot be accessed by inquisitive animals.

5.4 Provision of Opportunities for Roosting Bats and Nesting Birds

Bat Boxes on Retained Trees

5.4.1 It is recommended that bat boxes are installed on suitable trees to be retained at Newton Brook (to be identified by an ecologist). Suitable bat boxes are the Schwegler 1FF, Schwegler 1FD and Greenwood Ecohabitats boxes, see **Insert 2**, below.

Insert 2: Schwegler 1FF, Greenwood Ecohabitat's single cavity and Schwegler 1FD bat boxes

5.4.2 Bat boxes should be installed to the following guidelines (Bat Conservation Trust, 2016):

a. At least 4 metres above the ground (where safe installation is possible);

b. Sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west). Ideally several bat boxes will be installed to provide a variety of different thermal options for bats. Grouping a number of boxes each with a different aspect can achieve this; while a number of boxes is preferable to one, a single box is still viable and may be used by roosting bats;

c. Located close to unlit linear features, such as lines of trees or hedgerows; and

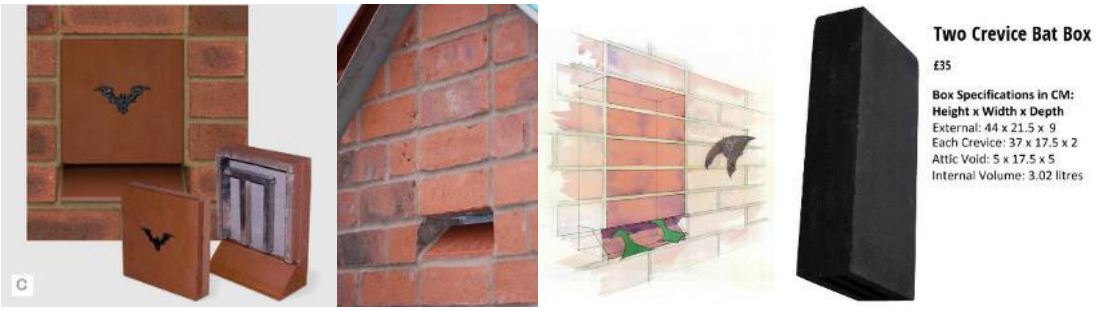
d. Installed where the bat box entrance is not cluttered or impeded by branches, or accessible to predators (such as cats) by large branches underneath them.

Within the Residential Area

Provisions for Roosting Bats

5.4.3 To enhance the opportunities at the site for roosting bats it is recommended that the development incorporates the installation of bat access panels at the new buildings.

5.4.4 The bat access panels should be sited at least four metres above ground level, ideally facing or close to areas of landscape planting or existing linear features and habitats. The access panels should not be positioned over windows or doorways where bat droppings may become a perceived nuisance. Once the development layout has been finalised, an ecologist will advise on the appropriate number and positions for the bat access panels.



Insert 3: Examples of integrated bat access panels and an externally mounted box[6]

Provisions for Nesting Birds

House Sparrow

5.4.5 House sparrows are associated with suburban areas. Monitoring suggests a severe decline in the UK house sparrow population, estimated as dropping by 71 per cent between 1977 and 2008 with large falls in both rural and urban populations (RSPB, 2023).

5.4.6 The installation of house sparrow terrace nest boxes is recommended at the new housing. The boxes will not be positioned over windows or doorways where droppings may become a nuisance. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest. An example of a suitable house sparrow bird box is given below.

[6] Left to right: IBstock Enclosed Bat Box 'c' (left); Habibat Bat Access Panels (centre left and centre right) and Greenwood's Ecohabitat's two crevice bat box (right). Products with a brick face are illustrated, however the Habibat bat access panels can be supplied unfaced to enable the additional of matching material.

Insert 4: Schwegler 1SP House Sparrow Nesting Terrace

5.4.7 Such bird boxes are available from the NHBS (www.nhbs.com) or Wild Care (www.wildcare.co.uk). ERAP (Consultant Ecologists) Ltd will advise on the appropriate number and siting of bird boxes once the development layout has been finalised.

Swift

5.4.8 The swift (*Apus apus*) has recently been added to The Birds of Conservation Concern Red list (Stanbury, et al., 2021) owing to the recorded recent declines and its identified status as a high conservation priority.

5.4.9 The construction of the residential properties provides an opportunity for the installation of additional nesting opportunities for swift to assist their conservation. Suitable swift nest boxes are illustrated at **Insert** .

Insert 5: Examples of swift nest boxes[7]

5.5 Landscape Planting within Residential Area

5.5.1 It is recommended that the landscape planting within the residential area of the site, including along the access road, is composed from native species and species known to be of value for the attraction of wildlife. The incorporation of native trees and shrubs such as Hazel (*Corylus avellana*), Guelder Rose (*Viburnum opulus*), Hawthorn (*Crataegus monogyna*) and *Sorbus* species that produce blossom and fruit which will attract insects in the landscape planting is recommended.

5.5.2 The understorey and ground cover planting design should be prepared to optimise the attraction of invertebrates such as feeding bumblebees and butterflies. Where possible the use of native species should be maximised but where necessary non-native species known to be attractive to invertebrates should be used.

5.5.3 Planting schemes that include flowering species such as *Viburnum, Ceanothus, Hebe*, *Lavandula*, *Lonicera, Potentilla, Rosmarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds.

[7] From left to right No. 17A Schwegler Swift Nest Box (Triple Cavity) as installation (centre), Manthorpe Swift Nesting Box (right) and Ibstock Eco-habitat for Swift (right), all available from www.NHBS.com and / or Wild Care (www.wildcare.co.uk).

5.6 Landscape and Ecological Management Plan

5.6.1 It is recommended that a Landscape and Ecological Management Plan (LEMP) is prepared to identify the objectives of the habitats and describe the management prescriptions relevant to secure the longevity of the retained habitats, landscape planting and habitat creation in accordance with nature conservation targets.

6.0 CONCLUSION

6.1 It is concluded that development at the site in accordance with an appropriate Site Layout and Landscape Masterplan that takes into account the application of the mitigation hierarchy and all ecological recommendations is feasible and acceptable in accordance with relevant planning policy.

6.2 The development proposals can secure the protection of the Newton Brook LWS and associated fauna and secure the creation of appropriate and complementary habitat creation to buffer the development.

6.3 This report describes the appropriate and proportionate measures and recommendations that aim to enhance the value of the site for wildlife such as roosting bats, nesting birds and biodiversity associated with residential developments. The recommendations comprise landscape planting, habitat creation and the application of positive habitat management in the long-term to achieve measurable gains for biodiversity and compliance with the National Planning Policy Framework, local planning policy and best practice.

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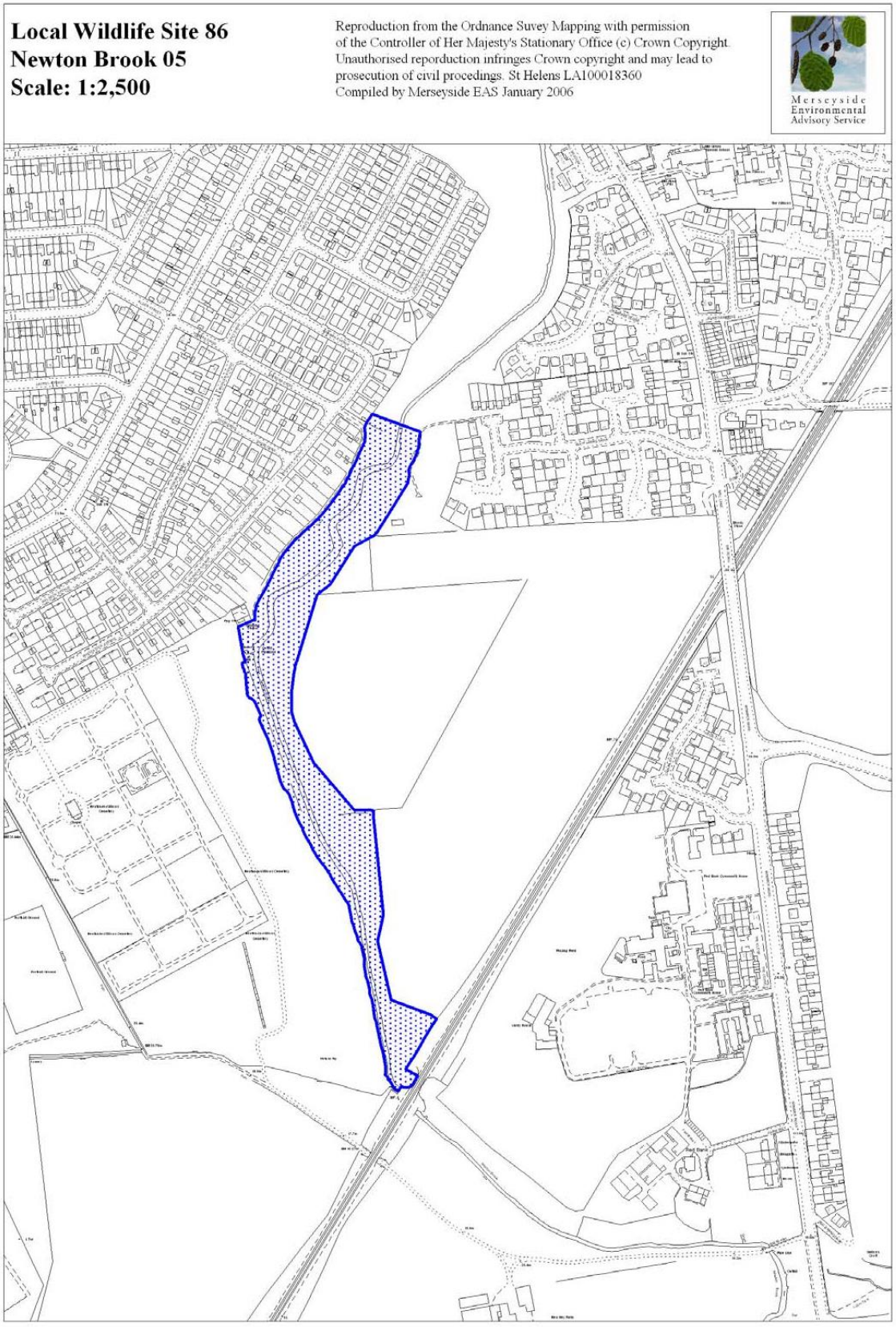
8.0 APPENDIX 1: NEWTON BROOK LWS CITATION



***Site Name*:**	**Newton Brook 05**		
***Site Area*:**	**2.92 hectares**	***National Grid Reference*:**	**SJ590947**
***Date of Designation*:**	**April 1994**	***District*:**	**St. Helens**
***Date of Last Revision*:**	**December 2003**	***Local Wildlife Sites Number*:**	**86**

CITATION: A section of Newton Brook with adjacent flood plain habitat. This section of the brook is diverse and includes stream, marginal vegetation, scrub and sandstone bank habitats. The site supports a number of nationally, regionally and locally important species.

APPRAISAL: This site has been evaluated against the guidelines approved by the Council for selection of Local Wildlife Sites. The site's evaluation against the guidelines is set out below.

Guideline		Comment
HABITATS		
H1;	Rarity	1 priority BAP Habitat; 1 priority Habitats Directive habitat; 2 regionally important habitats
H2;	Diversity	13 habitats recorded
H3;	Nearness	27 sites within 1Km.
H4.	Isolation	--
PLANTS		
SP1;	Rarity	1 nationally rare; 1 regionally important species; 3 locally rare species.
SP2;	Diversity	Total of 113 plant species. One of 58 sites with more than 100 species.
SP3;	Naturalness	85.84% of the plants are native to the borough. Colonisation has been aided by man and the site has been physically altered.
SP4.	Nationally Rare	*Rorippa islandica* - to be confirmed
ANIMALS		
General		
SP5;	Rare/priority	--
Birds		
B1;	Non-breeding population	--
B2;	Breeding population	--
B3;	Regional rare/scare	--
B4;	Breeding assemblage	--
B5.	Assemblage, breeding, wintering, passage.	--
Dragonflies		
Od1.	Breeding	--
Od2.	Regional rare/scarce	--
Butterflies		
Bf1;	Region rare breeding	--
Bf2.	Breeding assemblage	--
Amphibians		
A1;	Rarity	--
A2.	Exceptional populations	--
Reptiles		
R2;	Exceptional population	--
Bats		
Bat1;	Roost	--
Bat2.	Assemblage	--
Mammals		
Mam1.	Breeding	-- further survey may be required to confirm water voles

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11/02/11

Prepared by Tom King, Merseyside EAS Version 2

SUMMARY: The combination of these factors has led to this site being identified as a Local Wildlife Site.

NOTE: Validated data from 1981 to December 2003 have been used in this assessment. Other data may become available to support this designation.

Status of features of nature conservation importance

Habitats

1 Priority BAP habitat	Unimproved neutral grassland
1 Priority Habitat Directive habitat	Unimproved neutral grassland
2 Regionally Important Habitats (North West Biodiversity Audit)	Unimproved neutral grassland Natural acid exposure

Plants

1 Nationally rare species	Marsh Yellow-cress (*Rorippa islandica*)
1 Regionally important species	Small-flowered Crane's-bill (*Geranium pusillum*)
3 Locally rare species	A Liverwort (*Conocephalum conicum*) Small-flowered Crane's-bill (*Geranium pusillum*) Royal Fern (*Osmunda regalis*)

Animals

Mammals **1 Wildlife and Countryside Act – Schedule 5 species**	Water vole (A*rvicola terrestris*)

9.0 APPENDIX 2: TABLES

9.1 Photographs

Table 9.1: Photographs

Photo 1: Arable field taken July 2021 at eastern edge of site

Photo 2: Arable field (taken July 2021)

Photo 3: Arable field (taken July 2023)

Photo 4: Arable field (taken July 2023)

Photo 5: North-eastern corner of arable field (access)

Photo 6: Proposed access off Mill Lane and trees 3T to 7T

Photo 7: Proposed access at Mill Lane (taken from site)

Photo 8: Mosaic of habitats at Newton Brook

Photo 9: Mosaic of habitats at Newton Brook

Photo 10: Mosaic of habitats at Newton Brook

Photo 11: Railway corridor (off-site)

Photo 12: Newton Brook

Photo 13: Newton Brook

Photo 14: Newton Brook

Photo 15: Newton Brook

Photo 16: Newton Brook (upstream of site)

Photo 17: Newton Brook (upstream of site)

Photo 18: Newton Brook (downstream of site)

9.2 Plant Species Lists

Table 9.2: Plant Species List For Arable Field Margins and Tyre Ruts

Scientific Name	Common Name	DAFOR[1]	Cover
Woody Species			
Acer pseudoplatanus	Sycamore	O	<1%
Lonicera periclymenum	Honeysuckle	R	<1%
Quercus sp.	Oak	O	<1%
Sambucus nigra	Elder	O	<1%
Herb Species			
Arrhenatherum elatius	False Oat-grass	A*	50%
Bromus hordeaceus	Soft Brome	LF	<1%
Bromus sterilis	Barren Brome	LF	<1%
Chamerion angustifolium	Rosebay Willowherb	LVA	1%
Cirsium arvense	Creeping Thistle	LF	2%
Dactylis glomerata	Cock's-foot	F/LA	5%
Epilobium hirsutum	Great Willowherb	VLA	<1%
Equisetum arvense	Field Horsetail	VLA	<1%
Festuca rubra	Red Fescue	F/LA	10%
Galium aparine	Cleavers	F	5%
Heracleum sphondylium	Common Hogweed	O	<1%
Holcus lanatus	Yorkshire-fog	A*	20%
Impatiens glandulifera	Indian Balsam	LVA	10%
Lolium perenne	Perennial Rye-grass	LF	5%
Matricaria discoidea	Pineappleweed	O	<1%
Myosotis sp.	Forget-me-not species	R	<1%
Persicaria maculosa	Redshank	VLA	<1%
Plantago lanceolata	Ribwort Plantain	VLA	<1%
Plantago major	Greater Plantain	O	<1%
Poa annua	Annual Meadow-grass	LF	5%
Poa trivialis	Rough Meadow-grass	F	5%
Polygonum aviculare	Knotgrass	VLA	<1%
Ranunculus repens	Creeping Buttercup	LF	2%
Rumex obtusifolius	Broad-leaved Dock	O	<1%
Senecio jacobaea	Common Ragwort	O	<1%
Sonchus asper	Prickly Sow-thistle	VLF	<1%
Taraxacum officinale agg.	Dandelion	O	<1%
Tripleurospermum inodorum	Scentless Mayweed	LF	<1%
Veronica persica	Common Field Speedwell	R	<1%
Veronica serpyllifolia	Thyme-leaved Speedwell	R	<1%
Vicia tetrasperma	Smooth Tare	R	<1%

[1]**Key to DAFOR:** D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 9.3: Plant Species List for Neutral Grassland, Tall-herb Vegetation and Scattered Trees and Shrubs at Target Note 1

Scientific Name	Common Name	DAFOR[1]	Cover
Woody Species			
Crataegus monogyna	Hawthorn	A*	90%
Ilex aquifolium	Holly	F	5%
Quercus robur	Pedunculate Oak	F	20%
Rubus fruticosus	Bramble	LF	10%
Herb Species			
Arrhenatherum elatius	False Oat-grass	VLA	<1%
Bromus sterilis	Barren Brome	LF	1%
Capsella bursa-pastoris	Shepherd's-purse	VLF	<1%
Dactylis glomerata	Cock's-foot	LF	5%
Festuca rubra	Red Fescue	LF	5%
Galium aparine	Cleavers	VLF	<1%
Geranium robertianum	Herb-Robert	O	<1%
Geum urbanum	Wood Avens	R	<1%
Hedera helix	Ivy	LA	5%
Heracleum sphondylium	Common Hogweed	D	<1%
Holcus lanatus	Yorkshire-fog	A	10%
Lolium perenne	Perennial Rye-grass	LF	5%
Plantago lanceolata	Ribwort Plantain	O	<1%
Poa trivialis	Rough Meadow-grass	LF	1%
Rubus fruticosus agg.	Bramble	LF	10%
Rumex obtusifolius	Broad-leaved Dock	O	<1%
Taraxacum officinale agg.	Dandelion	O	<1%
Urtica dioica	Common Nettle	LA	5%

[1]**Key to DAFOR**: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

Table 9.4: Plant Species List For Vegetation Along Newton Brook LWS and Channel

Scientific Name	Common Name	DAFOR[1]	Cover
Woody Species			
Acer campestre	Field Maple	R	<1%
Acer pseudoplatanus	Sycamore	LA	5%
Betula pendula	Silver Birch	R	<1%
Crataegus monogyna	Hawthorn	F	5%
Fraxinus excelsior	Ash	O	<1%
Ilex aquifolium	Holly	R	<1%
Ligustrum ovalifolium	Garden Privet	O	<1%
Populus tremula	Aspen	O	<1%
Prunus sp.	Cherry species	R	<1%
Prunus spinosa	Blackthorn	R	<1%
Quercus robur	Pedunculate Oak	O	<1%
Rosa sp.	Rose species	r	<1%
Rubus fruticosus	Bramble	F	10%
Salix alba	White Willow	O	1%
Salix caprea	Goat Willow	LF	10%
Salix cinerea	Grey Willow	LF	2%
Salix fragilis	Crack Willow	LF	5%
Salix viminalis	Osier	R	<1%
Sambucus nigra	Elder	O	5%
Herb Species			
Aegopodium podagraria	Ground Elder	VLA	<1%
Agrostis capillaris	Common Bent	LF	5%
Agrostis stolonifera	Creeping Bent	R	1%
Anthriscus sylvestris	Cow Parsley	F	2%
Angelica sylvestris	Wild Angelica	LF	1%
Arrhenatherum elatius	False Oat-grass	A*	10%
Callitriche stagnalis	Common Water Starwort	VLA	<1%

Scientific Name	Common Name	DAFOR[1]	Cover
Calystegia sepium	Hedge Bindweed	LVA	<1%
Carex remota	Remote Sedge	VLA	<1%
Chamerion angustifolium	Rosebay Willowherb	VLA	1%
Cirsium arvense	Creeping Thistle	A	10%
Dactylis glomerata	Cock's-foot	O	1%
Dryopteris filix-mas	Male-fern	O	<1%
Elytrigia repens	Common Couch-grass	F	5%
Epilobium hirsutum	Great Willowherb	LA	2%
Lolium perenne	Perennial Rye-grass	O	<1%
Festuca rubra	Red Fescue	LF	5%
Galium aparine	Cleavers	LF	2%
Plantago major	Greater Plantain	R	<1%
Geum urbanum	Wood Avens	VLF	<1%
Glyceria maxima	Reed Sweet-grass	VLA	<1%
Geranium robertianum	Herb-Robert	VLF	<1%
Hedera helix	Ivy	VLA	2%
Heracleum sphondylium	Common Hogweed	O	<1%
Holcus lanatus	Yorkshire-fog	F/A*	10%
Hyacinthoides non-scripta	Bluebell	VLF	<1%
Arctium minus	Lesser Burdock	R	<1%
Impatiens glandulifera	Indian Balsam	F	5%
Iris pseudacorus	Yellow Iris	VLA	<1%
Lolium perenne	Perennial Rye-grass	VLA	<1%
Matricaria discoidea	Pineappleweed	LVF	<1%
Oenanthe crocata	Hemlock Water-dropwort	LVA	2%
Circaea lutetiana	Enchanter's Nightshade	R	<1%
Poa annua	Annual Meadow-grass	O	<1%
Rumex obtusifolius	Broad-leaved Dock	O	<1%
Plantago lanceolata	Ribwort Plantain	R	<1%
Phalaris arundinacea	Reed Canary-grass	LVA	15%
Solanum dulcamara	Bittersweet	R	<1%
Phragmites australis	Common Reed	LA	5%
Ranunculus repens	Creeping Buttercup	F	1%
Rubus fruticosus agg.	Bramble	LF	2%
Rubus idaeus	Raspberry	VLF	<1%
Silene dioica	Red Campion	O	<1%
Typha latifolia	Bulrush	LF	2%
Urtica dioica	Common Nettle	LA	10%

[1]**Key to DAFOR**: D=Dominant, A=Abundant, F=Frequent, O=Occasional, R=Rare, V=Very, L=Local and *denotes a constant species

9.3 Results of Breeding Bird Surveys 2023

Table 9.5: Breeding Bird Survey Results, 17th April 2023. Total Species Observed: 29

Scientific Name	Common Name	Times Observed	Total Number Seen	No. Observed			No. Displaying Breeding Behaviour		Peak Count (for a single flock)
				In Survey Area	Over Survey Area	Outside Survey Area	In Survey Area	Outside Survey Area	
Aegithalos caudatus	Long-tailed tit	3	5	4	0	1	2	1	2
Alauda arvensis	**Skylark**	**2**	**2**	**2**	**0**	**0**	**2**	**0**	**1**
Anas platyrhynchos	Mallard	1	1	1	0	0	0	0	1
Carduelis carduelis	Goldfinch	1	2	2	0	0	2	0	2
Carduelis chloris	Greenfinch	1	1	1	0	0	1	0	1
Certhia familiaris	Treecreeper	1	1	1	0	0	1	0	1
Columba palumbus	Wood pigeon	10	16	8	3	5	2	3	4
Corvus corone corone	Carrion crow	1	2	2	0	0	0	0	2
Corvus monedula	Jackdaw	1	2	0	2	0	0	0	2
Cyanistes caeruleus	Blue tit	6	7	5	0	2	5	2	2
Erithacus rubecula	Robin	14	14	8	0	6	8	6	1
Fringilla coelebs	Chaffinch	2	2	1	0	1	1	1	1
Gallinula chloropus	Moorhen	1	1	1	0	0	1	0	1
Garrulus glandarius	Jay	1	1	0	1	0	0	0	1
Parus major	Great tit	7	8	1	0	7	1	7	2
Passer domesticus	**House sparrow**	**6**	**6**	**0**	**0**	**6**	**0**	**6**	**1**
Phylloscopus collybita	Chiffchaff	3	3	1	0	2	1	2	1
Phylloscopus trochilus	Willow warbler	1	1	0	0	1	0	1	1
Pica pica	Magpie	2	4	2	0	2	0	0	2
Prunella modularis	**Dunnock**	**7**	**7**	**7**	**0**	**0**	**7**	**0**	**1**
Regulus regulus	Goldcrest	1	1	1	0	0	1	0	1
Sitta europaea	Nuthatch	2	2	2	0	0	2	0	1
Streptopelia decaocto	Collared dove	1	1	0	0	1	0	1	1
Sturnus vulgaris	**Starling**	**3**	**3**	**0**	**0**	**3**	**0**	**3**	**1**
Sylvia atricapilla	Blackcap	4	4	3	0	1	3	1	1
Troglodytes troglodytes	Wren	14	14	10	0	4	10	4	1
Turdus merula	Blackbird	11	11	10	0	1	10	1	1
Turdus philomelos	**Song thrush**	**2**	**2**	**2**	**0**	**0**	**2**	**0**	**1**
Vanellus vanellus	**Lapwing**	**1**	**1**	**1**	**0**	**0**	**1**	**0**	**1**
Priority Species are presented in **bold**.									

Table 9.6: Breeding Bird Survey Results, 8th June 2023. Total Species Observed: 33

Scientific Name	Common Name	Times Observed	Total Number Seen	No. Observed			No. Displaying Breeding Behaviour		Peak Count (for a single flock)
				In Survey Area	Over Survey Area	Outside Survey Area	In Survey Area	Outside Survey Area	
Acrocephalus schoenobaenus	Sedge warbler	1	1	1	0	0	1	0	1
Aegithalos caudatus	Long-tailed tit	1	1	1	0	0	1	0	1
Alauda arvensis	**Skylark**	**2**	**2**	**2**	**0**	**0**	**2**	**0**	**1**
Carduelis carduelis	Goldfinch	2	3	3	0	0	1	0	2
Carduelis chloris	Greenfinch	2	2	0	0	2	0	2	1
Columba oenas	Stock dove	1	1	0	1	0	0	0	1
Columba palumbus	Wood pigeon	12	17	4	5	8	2	4	2
Corvus corone corone	Carrion crow	4	5	1	2	2	1	0	2
Corvus monedula	Jackdaw	2	4	2	2	0	0	0	2
Cyanistes caeruleus	Blue tit	3	3	2	0	1	2	1	1
Delichon urbica	House martin	3	11	11	0	0	0	0	6
Emberiza schoeniclus	**Reed bunting**	**3**	**3**	**3**	**0**	**0**	**3**	**0**	**1**
Erithacus rubecula	Robin	6	6	5	0	1	5	1	1
Fringilla coelebs	Chaffinch	6	6	3	0	3	3	3	1
Gallinula chloropus	Moorhen	1	1	1	0	0	1	0	1
Garrulus glandarius	Jay	1	1	1	0	0	1	0	1
Hirundo rustica	Swallow	1	2	2	0	0	0	0	2
Larus fuscus	Lesser black-backed gull	1	1	0	1	0	0	0	1
Parus major	Great tit	2	2	2	0	0	2	0	1
Passer domesticus	**House sparrow**	**7**	**14**	**8**	**0**	**6**	**0**	**6**	**8**
Phylloscopus collybita	Chiffchaff	3	3	2	0	1	2	1	1
Pica pica	Magpie	4	6	5	0	1	1	0	2
Prunella modularis	**Dunnock**	**3**	**3**	**1**	**0**	**2**	**1**	**2**	**1**
Pyrrhula pyrrhula	**Bullfinch**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**1**
Regulus regulus	Goldcrest	1	1	1	0	0	1	0	1
Sitta europaea	Nuthatch	1	1	0	0	1	0	1	1
Streptopelia decaocto	Collared dove	1	1	0	0	1	0	1	1
Sturnus vulgaris	**Starling**	**1**	**4**	**0**	**0**	**4**	**0**	**0**	**4**
Sylvia atricapilla	Blackcap	5	5	3	0	2	3	2	1
Sylvia communis	Whitethroat	5	5	3	0	2	3	2	1
Troglodytes troglodytes	Wren	11	11	10	0	1	10	1	1
Turdus merula	Blackbird	11	11	7	0	4	6	4	1
Turdus philomelos	**Song thrush**	**2**	**2**	**1**	**0**	**1**	**1**	**1**	**1**

Priority Species are presented in **bold**.

9.4 Water Vole and Otter Surveys

Table 9.7: Reproduction of Table 2.1, Water Vole Field Signs and Habitat Assessment, A Practical Guide to Water Vole Surveys (Dean, 2021)

Habitat category	Dry areas for burrows or nests			Herbaceous vegetation	Water
	Bank profile	Bank substrate	Variation in water level		
Optimal (all criteria need to be met)	Steep (approaching 1:1) on at least on side of the watercourse. Steep or shallow banks on static waterbodies or fen-type habitat, where water levels do not fluctuate significantly	Earth or peat	No noticeable variation during the summer months; banks are not overtopped regularly [a]	Continuous swathe of tall and luxurious riparian vegetation providing 90-100% cover on the banks (tall tussocky grassland) and marginal / in-channel vegetation is present (emergent species)	Permanent water
Good (all criteria need to be met)	Steep (approaching 1:1) on at least one side of a watercourse. Steep or shallow banks on static waterbodies or fen-type habitat, where water levels do not fluctuate significantly	Earth or peat banks, or stony / reinforced banks with gaps allowing access to the earth behind	No noticeable variation during the summer months; banks are not overtopped regularly	Continuous swathe of bankside or in-channel (emergent) vegetation providing at least 60% ground cover. May be dominated by grasses and weeds, rather than luxurious riparian vegetation. The vegetation should generally be tall, except in urban or suburban areas, where shorter bankside vegetation may also qualify	Permanent water. Or routinely wet for at least 2-3 months during the summer, and where other 'good' habitat is present in immediately adjacent areas with permanent water
Negligible value (will generally need to meet the criteria for herbaceous vegetation and at least one other)	Shallow profile on both banks	Rocky or gravel, unsuitable for burrowing	Considerable variation in water level – the bank toe can move by more than 1 m horizontally over the breeding season.	No or limited bankside and marginal vegetation (due to shading or other 'permanent' factors – note that management can change and is often a 'temporary' factor)	n/a
	Vertical bank face with no burrowing opportunities behind it	Reinforced banks with no gaps	n/a		n/a
Suitable but poor [b]	Any habitat that falls short of the criteria to qualify as 'good' but does not meet the criteria of 'negligible value' could reasonably be considered to be 'suitable but poor'				

Table 9.8: Field Notes: Newton Brook (upstream 1)

Channel			
Width (m)	5		
Water depth (m)	0.3		
Silt depth (m)	None		
Water quality	Poor (odour of sewerage and turbid)		
Flow rate	Fast		
Water level changes	0.1 to 0.5 metres		
Permanence	Permanent		
Shading (by woody vegetation)	80%		
Banks	**Western**	**Eastern**	
Bank substrate	Soft earth and stones	Soft earth and stones	
Bank height (m)	0.1	0.5	
Angle of bank (º)	30	60	
Vegetation			
In-channel vegetation	None	None	
Further information			
Evidence of management	None		
Disturbance (recreational / livestock)	Disturbance by children and dogs.		
Presence of other mammals / animals	None		
Water Vole Presence / Absence Information			
Grid Reference	**Burrow**	**Feeding Station**	**Latrine (*count*)**
-	-	-	-
Further evidence	No		
Water vole presence	None		
Population estimate	N/A		
Suitability for water vole	Suitable but poor owing to absence of emergent plants and a stoney bed and banks.		
Otter Presence / Absence Information			
Grid Reference	**Holt**	**Field Signs**	**Spraint (*count*)**
-	-	-	-
Further evidence	None		
Otter presence	None		
Population estimate	N/A		
Suitability for otter	May provide a corridor for passage elsewhere and lying up habitat.		

Table 9.9: Field Notes: Newton Brook (upstream 2)

Channel			
Width (m)	6		
Water depth (m)	0.6		
Silt depth (m)	0.3		
Water quality	Poor (odour of sewerage and turbid)		
Flow rate	Fast		
Water level changes	0.1 to 0.5 metres		
Permanence	Permanent		
Shading (by woody vegetation)	50%		
Banks	**Western**	**Eastern**	
Bank substrate	Soft earth and stones	Soft earth and stones	
Bank height (m)	0.1	2	
Angle of bank (º)	60	50	
Vegetation			
In-channel vegetation	Common Reed (sparse)	None	
Further information			
Evidence of management	None		
Disturbance (recreational / livestock)	Disturbance by children and dogs.		
Presence of other mammals / animals	None		
Water Vole Presence / Absence Information			
Grid Reference	**Burrow**	**Feeding Station**	**Latrine (*count*)**
-	-	-	-
Further evidence	No		
Water vole presence	None		
Population estimate	N/A		
Suitability for water vole	Suitable but poor owing to absence of emergent plants and a stoney bed and banks.		
Otter Presence / Absence Information			
Grid Reference	**Holt**	**Field Signs**	**Spraint (*count*)**
-	-	-	-
Further evidence	None		
Otter presence	None		
Population estimate	N/A		
Suitability for otter	May provide a corridor for passage elsewhere and lying up habitat.		

Table 9.10: Field Notes: Newton Brook (adjacent to site 1)

Channel			
Width (m)	6		
Water depth (m)	1		
Silt depth (m)	0.3		
Water quality	Poor (odour of sewerage and turbid)		
Flow rate	Fast		
Water level changes	0.1 to 0.5 metres		
Permanence	Permanent		
Shading (by woody vegetation)	80%		
Banks	**Western**	**Eastern**	
Bank substrate	Soft earth and stones	Soft earth and stones	
Bank height (m)	2	1.5	
Angle of bank (º)	70	60	
Vegetation			
In-channel vegetation	None	None	
Further information			
Evidence of management	None		
Disturbance (recreational / livestock)	Disturbance by children and dogs.		
Presence of other mammals / animals	None		
Water Vole Presence / Absence Information			
Grid Reference	**Burrow**	**Feeding Station**	**Latrine (*count*)**
-	-	-	-
Further evidence	No		
Water vole presence	None		
Population estimate	N/A		
Suitability for water vole	Suitable but poor owing to absence of emergent plants and a stoney bed and banks.		
Otter Presence / Absence Information			
Grid Reference	**Holt**	**Field Signs**	**Spraint (*count*)**
-	-	-	-
Further evidence	None		
Otter presence	None		
Population estimate	N/A		
Suitability for otter	May provide a corridor for passage elsewhere and lying up habitat.		

Table 9.11: Field Notes: Newton Brook (adjacent to site 2)

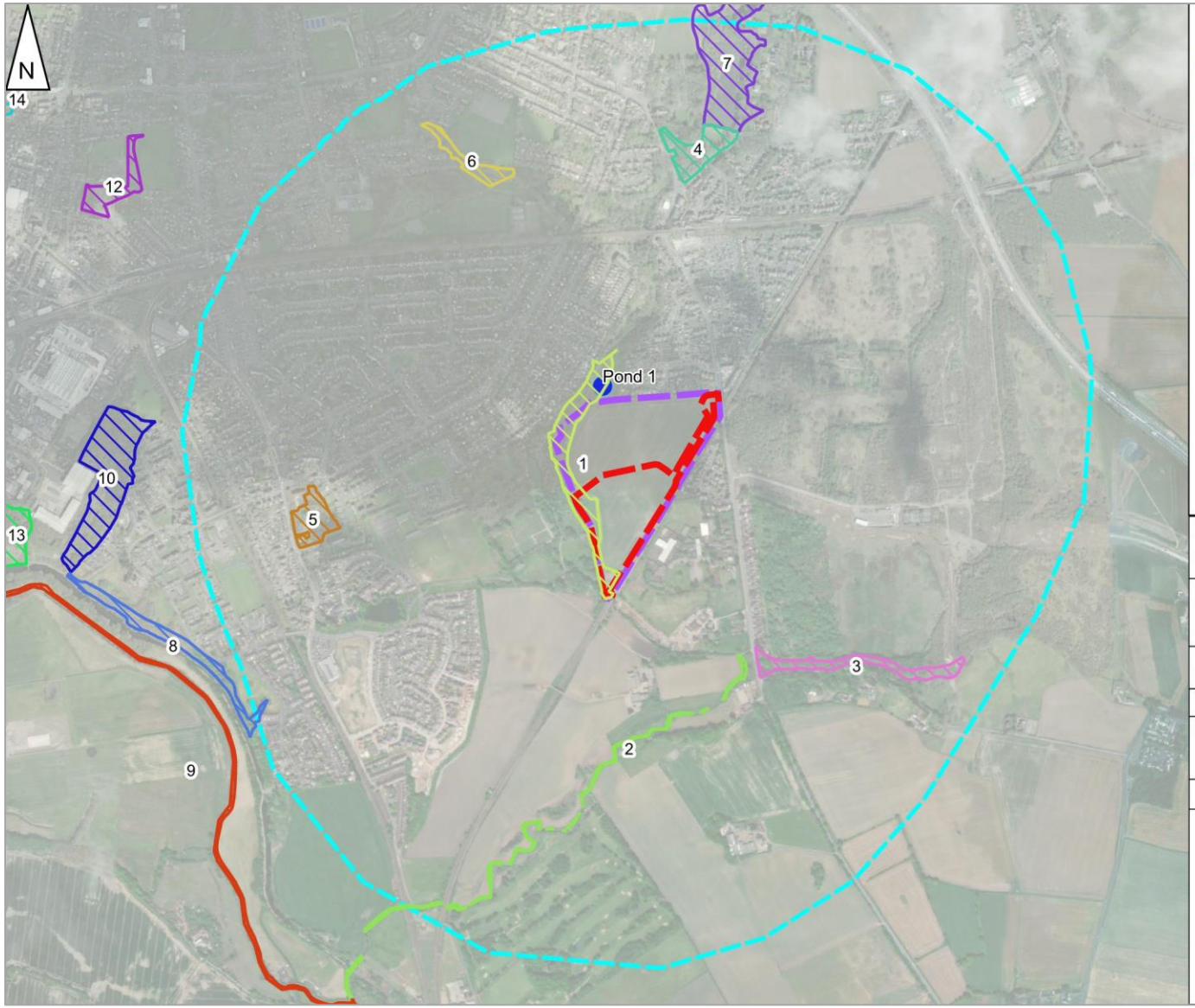
Channel			
Width (m)	4		
Water depth (m)	0.5		
Silt depth (m)	0.1		
Water quality	Poor (odour of sewerage and turbid)		
Flow rate	Fast		
Water level changes	0.1 to 0.5 metres		
Permanence	Permanent		
Shading (by woody vegetation)	100%		
Banks	**Western**	**Eastern**	
Bank substrate	Soft earth	Gabion wall (stones)	
Bank height (m)	0.5	0.5	
Angle of bank (º)	30	90	
Vegetation			
In-channel vegetation	None	None	
Further information			
Evidence of management	None		
Disturbance (recreational / livestock)	Disturbance by children and dogs.		
Presence of other mammals / animals	None		
Water Vole Presence / Absence Information			
Grid Reference	**Burrow**	**Feeding Station**	**Latrine (*count*)**
-	-	-	-
Further evidence	No		
Water vole presence	None		
Population estimate	N/A		
Suitability for water vole	Suitable but poor owing to absence of emergent plants and a stoney bed and banks.		
Otter Presence / Absence Information			
Grid Reference	**Holt**	**Field Signs**	**Spraint (*count*)**
-	-	-	-
Further evidence	None		
Otter presence	None		
Population estimate	N/A		
Suitability for otter	May provide a corridor for passage elsewhere and lying up habitat.		

Table 9.12: Field Notes: Newton Brook (downstream beyond railway)

Channel			
Width (m)	5		
Water depth (m)	0.3		
Silt depth (m)	0 (stoney bed)		
Water quality	Poor (odour of sewerage and turbid)		
Flow rate	Fast		
Water level changes	0.1 to 0.5 metres		
Permanence	Permanent		
Shading (by woody vegetation)	90%		
Banks	**Western**	**Eastern**	
Bank substrate	Soft earth and stones	Soft earth and stones	
Bank height (m)	2	2	
Angle of bank (º)	45	45	
Vegetation			
In-channel vegetation	None	None	
Further information			
Evidence of management	None		
Disturbance (recreational / livestock)	None		
Presence of other mammals / animals	None		
Water Vole Presence / Absence Information			
Grid Reference	**Burrow**	**Feeding Station**	**Latrine (*count*)**
-	-	-	-
Further evidence	No		
Water vole presence	None		
Population estimate	N/A		
Suitability for water vole	Suitable but poor owing to absence of emergent plants and a stoney bed and banks.		
Otter Presence / Absence Information			
Grid Reference	**Holt**	**Field Signs**	**Spraint (*count*)**
-	-	-	-
Further evidence	None		
Otter presence	None		
Population estimate	N/A		
Suitability for otter	May provide a corridor for passage elsewhere and lying up habitat.		

10.0 APPENDIX 3: FIGURES

Figure 1: Aerial Image of the Site, Pond 1, Surrounding Habitats and Nearby Designated Sites



Key to Map Symbols

Survey Area

Local Wildlife Sites (all colours)

Red line boundary

Ref.	Local Wildlife Site (LWS)
1	Newton Brook 05
2	Newton Brook (SJ595941-SJ584933)
3	Gallows Croft
4	Willow Park
5	Wargrave Road, woodland e of
6	Mesnes Park and stream
7	Newton Lake and southern woodland
8	Old Hey Wood
9	Sankey Brook, Sankey Valley
10	Red Brow Wood
11	Castle Hill
12	Collingwood Road, openspace
13	Mucky Mountains

Source Image: ESRI World Imagery

Figure 1:
Aerial Image to Show Site, Pond 1, Surrounding Habitats and Nearby Designated Sites

Project Name:
Red Bank, Mill Lane, Newton-le-Willows, WA12 8DF

Central Grid Ref: SJ 5922 9469

Reference No. ERAP Ltd. 2021-017

Version & Date: v1 (VB) 20.12.2023

Scale: 1:17,500 at A4

0 200 400 600 800 m

Z:\Current Jobs\2021\2021-017 Red Bank, Newton-le-Willows\8. Maps\ERAP Map template 1.qgs

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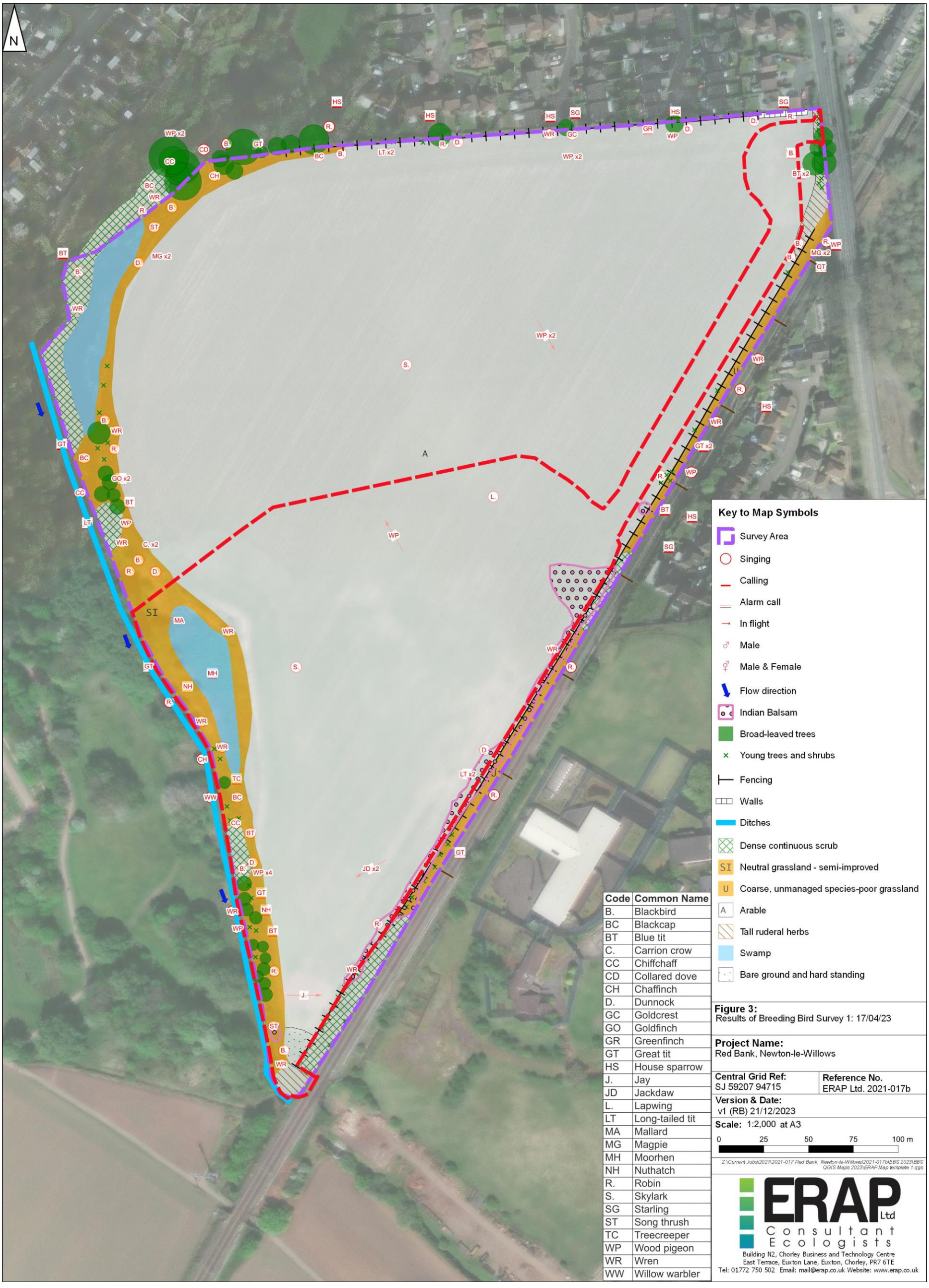
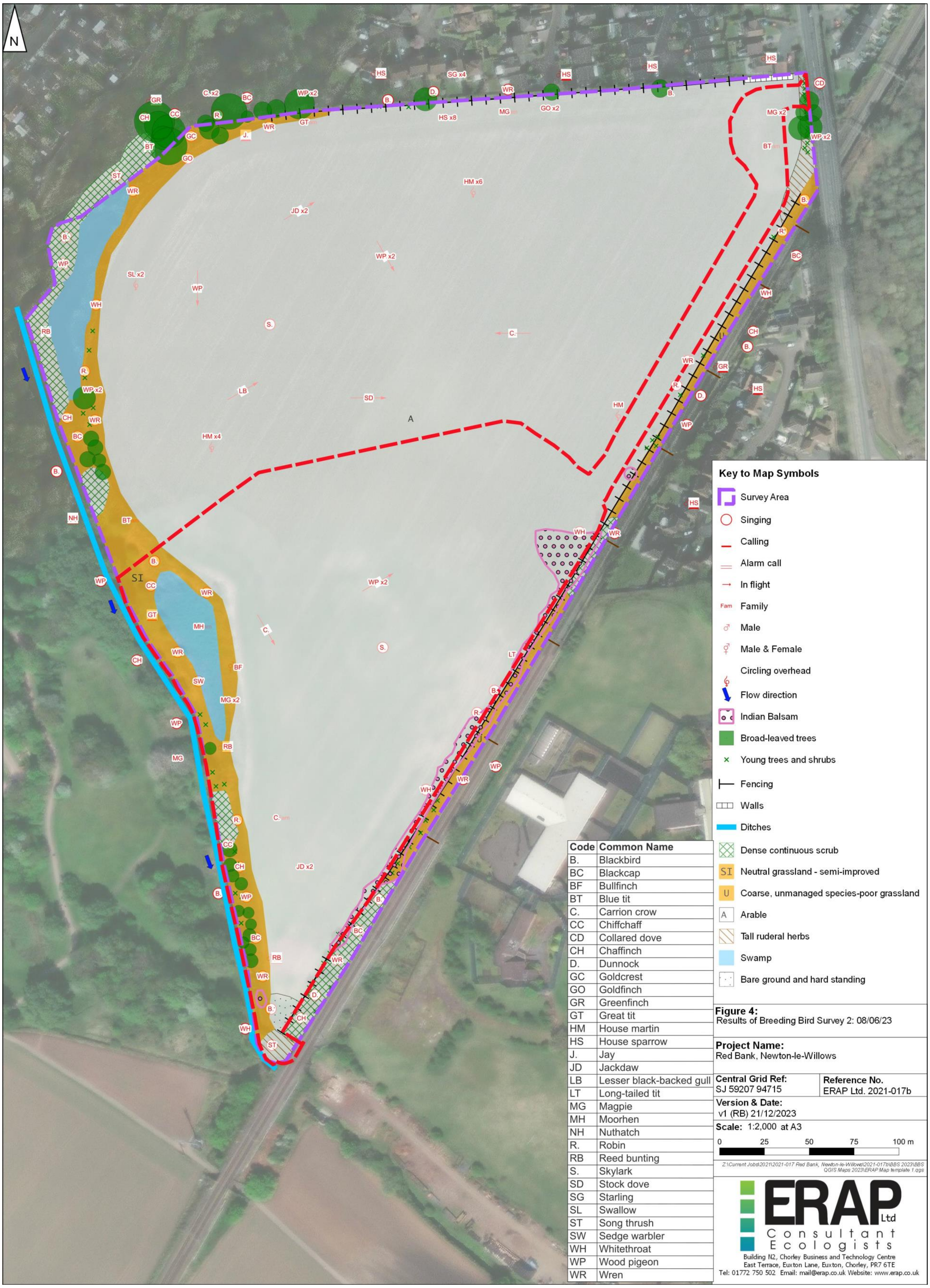
Figure 2: **Phase 1 Habitat and Vegetation Map**

Figure 3: **Results of Breeding Bird Survey 1: 17/04/2023**



Code	Common Name
B.	Blackbird
BC	Blackcap
BT	Blue tit
C.	Carrion crow
CC	Chiffchaff
CD	Collared dove
CH	Chaffinch
D.	Dunnock
GC	Goldcrest
GO	Goldfinch
GR	Greenfinch
GT	Great tit
HS	House sparrow
J.	Jay
JD	Jackdaw
L.	Lapwing
LT	Long-tailed tit
MA	Mallard
MG	Magpie
MH	Moorhen
NH	Nuthatch
R.	Robin
S.	Skylark
SG	Starling
ST	Song thrush
TC	Treecreeper
WP	Wood pigeon
WR	Wren
WW	Willow warbler

Figure 4: Results of Breeding Bird Survey 2: 08/06/2023



Code	Common Name
B.	Blackbird
BC	Blackcap
BF	Bullfinch
BT	Blue tit
C.	Carrion crow
CC	Chiffchaff
CD	Collared dove
CH	Chaffinch
D.	Dunnock
GC	Goldcrest
GO	Goldfinch
GR	Greenfinch
GT	Great tit
HM	House martin
HS	House sparrow
J.	Jay
JD	Jackdaw
LB	Lesser black-backed gull
LT	Long-tailed tit
MG	Magpie
MH	Moorhen
NH	Nuthatch
R.	Robin
RB	Reed bunting
S.	Skylark
SD	Stock dove
SG	Starling
SL	Swallow
ST	Song thrush
SW	Sedge warbler
WH	Whitethroat
WP	Wood pigeon
WR	Wren

Figure 4:
Results of Breeding Bird Survey 2: 08/06/23

Project Name:
Red Bank, Newton-le-Willows

Central Grid Ref: SJ 59207 94715

Reference No. ERAP Ltd. 2021-017b

Version & Date: v1 (RB) 21/12/2023

Scale: 1:2,000 at A3

0 25 50 75 100 m

Z:\Current Jobs\2021\2021-017 Red Bank, Newton-le-Willows\2021-017b\BBS 2023\BBS QGIS Maps 2023\ERAP Map template 1.qgs

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Figure 5: Plan to Show Length of Newton Brook Surveyed for Water Vole and Otter